A STUDY ON WORKING CAPITAL MANAGEMENT OF

BOTTLERS NEPAL LIMITED

(With reference: Bottlers Nepal Limited)

A Thesis

Submitted By:

Srijana Sakhakarmi

Nepal Commerce Campus

Roll No.07/63

T.U.Reg.No:7-2-408-95-2003

Exam Roll No.251411

Submitted to:

Office of Dean

Faculty of Management

Tribhuvan University

In partial fulfillment of the requirement for the degree of

Masters of Business Studies(M.B.S)

New Baneshwor, Kathmandu

2013

Phone:4107040,4107044

4107045,4107048

TRIBHUVAN UNIVERSITY P.O.Box No:2465

Faculty of Management

NEPAL COMMERCE CAMPUS

New Baneshwor,Kathmandu,Nepal

Ref.: **RECOMMENDATION**

This is to certify that the thesis

Submitted by

SRIJANA SAKHAKARMI

Entitled

A STUDY ON WORKING CAPITAL MANAGEMENT OF

BOTTLERS NEPAL LIMITED

(With reference to Bottlers Nepal Limited)

Has been prepared as approved by this deparment in the prescribed format of faculty of management. This thesis is forwarded for examination.

…… ……

Dr.Sushil Bhakta Mathema
Head of Research Department and
Supervisor

Mrs Jyoti Pandey
Campus Chief

Phone:4107040,4107044

4107045,4107048

TRIBHUVAN UNIVERSITY P.O.Box No:2465

Faculty of Management

NEPAL COMMERCE CAMPUS

New Baneshwor,Kathmandu,Nepal

Ref.: **VIVA-VOCE SHEET**

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

SRIJANA SAKHAKARMI

Entitled

A STUDY ON WORKING CAPITAL MANAGEMENT OF

BOTTLERS NEPAL LIMITED

(With reference to Bottlers Nepal Limited)

And found the thesis to be the original work of the student and written according to the prescribe format.We recommend the thesis to be accepted as partial fulfillment of the requirement for the Master's Degree of Business Studies(MBS).

Viva-Voce Committee:

Chairperson,Research Committee:……..

Member(Thesis Supervisor):……

Member(External Expert):……

Date:……..

DECLARATION

I here by declare that the work reported in this thesis entitled"**A study on Workind Capital Management of Bottlers Nepal Limited**" submitted to **Nepal Commerce Campus**,office of Dean(Faculty of Management),Tribhuwan University,is my original work done in the form of partial fulfillment of the requirement for the Masters Degree of Business Studies(MBS)under the supervision of Dr.**Sushil Bhakta Mathema**(Head of Research Department,Nepal Commerce Campus).

…….

Srijana Sakhakarmi

Exam Roll No.:251411

Nepal Commerce Campus

New Baneshwor,Kathmandu,Nepal

Date:……

ACKNOWLEDGEMENT

This research tries best to find the working capital management of Bottlers Nepal Limited.This research has focused in finding the working capital policy.It helps in valid decision-making regarding the operation and policy making of working capital management.This research study has taken place on this mater under partial fulfillment of MBS programme of T.U.

First of all, I wound like to express my sincere gratitude to my supervisor Dr.**Shushil Bhakta Mathema**, for his admirable co-operation and inspirable guidance.His precious suggestion and remarkable co-operation made this dissertation work simple and possible.I really appreciate the continuous support of the staff of Nepal Commerce Campus for their support,with friendly behaviors in the providing me the necessary data and books as required. I would also like to acknowledge all my senior and junior colleagues.

I would like to extend the acknowledgement to all my friends especially to Dillip Kumar Pyatha,Radhika Khayamali,Bal Krishna Dhoju for their encouragement and helps.Finally,I must expree my deepest gratitude and appreciation to my family members for providing me the academic environment.

Once again I would like to express my heartily thanks to everyone who helped me directly and indirectly during this thesis work.

Srijana Sakhakarmi

(Researcher)

TABLE OF CONTENTS

List of Tables: **Page No.**

List of Figures: **Page No.**

Abbreviations:

NG	-	Nepal Government
BNL	-	Bottlers Nepal Limited
ETP	-	Effuent Treatment Plants
CCQS	-	Coca-Cola Quality System
ICP	-	Inventory Conversion Period
ARP	-	Account Receivable Period
DSO	-	Days Sales Outstanding
RMCP	-	Raw Material Conversion Period
WIPCP	-	Work-in-process Conversion Period
FGCP	-	Furnished Goods Conversion Period
GOC	-	Gross Operating Cycle
NOC	-	Net Operating Cycle
NTC	-	Nepal Telecommunication
L	-	Total equity including general reserves + Total long term loan
TFA	-	Total Fixed Assets
TCL	-	Total Current Liabilities
TCA	-	Total Current Assets
OC	-	Operating Cycle
CCC	-	Cash Conversion Cycle
APP	-	Account Payable Period
CATA	-	Current Assets to Total Assets
CAFA	-	Current Assets to Net Fixed Assets
CBCA	-	Cash and Bank Balance to Current Assets

CBTA	-	Cash and Bank Balance to Total Assets
ICA	-	Inventories to Current Assets
ITA	-	Inventories to Total Assets
RCA	-	Receivables to Current Assets
RTA	-	Receivables to Total Assets
CAT	-	Current Assets Turnover
NWCT	-	Net Working Capital Turnover
CT	-	Cash Turnover
RT	-	Receivables Turnover
IT	-	Inventories Turnover
CR	-	Current Ratio
QR	-	Quick Ratio
GPM	-	Gross Profit Margin
NPM	-	Net Profit Margin
ROA	-	Return on Total Assets
RNW	-	Return on Net Worth

CHAPTER-I

INTRODUCTION

1.1 Background of the study

The land lock with rugged mountainous topography is a fait accompli for Nepal. It is one of the least developed country in the world of economy. It totally dominated by agricultural sector. About 90 percent of people out of total population of the country live in rural areas. More than 25.4 percent of the people of Nepal are below the absolute poverty line.

As a developing country, Nepal is trying to develop and modernize rapidly on rational and social desired footings. But the structure of economy is still in preliminary agricultural with a very small industry base. So, to divest and to modify agro based economy, Nepal Government (NG) has adopted mixed economic policy model with an objective to help the state and private sector economy that complement each other in the development process from very inception of economic planning process back in 1956. Since then substantial initiative has been taken in promoting, protecting, and developing. The role of private sector cannot be denied in the process of economic development in an under-developed country like Nepal. The main responsibility for planned economic development ultimately rests on public sector and government sector. It is the best instrument for ensuring an equitable socio-economic system, erecting basic infrastructure for economic development, and guiding the nation towards a new economic direction. It is believed that in order to achieve security, stability and high standard of living, the countries must be industrialized. The most important reason for embarking on a performance of industrialization is to increase the national income (Muny, 1969: 3).

Compared to developed countries, the role of public sector in underdeveloped countries is rather limited. Even then the study of the working capital behavior of public sector enterprises in a country like Nepal is important for several reasons: Firstly, the public

corporate sector is an expanding one and thus knowledge about the representative member of a relatively small sector today can provide a useful insight into the behavior of the representative member of an important sector a few years hence; secondly, in so far as there are reasons to believe, on a priori grounds, that the behavior of the former on which financial data are available will give an idea about the working capital behavior of the latter also; and thirdly, it is likely that the public corporate sector is most sensitive and most amenable to monetary control measures (Pradhan, 1986:10).

Manufacturing public sector is a critical to the pursuit of sustained growth due to its potential to promote technological capacities, advance the diversification of production and exports, add value to exports and to foster inter-sectored inter- industries linkages but many of the analytical methods and approaches used an undoubtedly be of great use to public enterprises in the non-manufacturing sector also to private enterprises. The public enterprise can bring about economy in the use of resources. The problems of public enterprises are similar to those of private enterprises; the approaches used to tackle the problems in private enterprises may also be employed in similar way public enterprises (Gautam, 2008:2).

The accelerating pace of the development of industries in the public sector of Nepal has created many managerial problems, an important one of which is the management of working capital. Nepal has abundant human and natural resources to exploit but at the same time it has inadequate financial resources. As the capital is shy in a country like Nepal, it is essential that working capital utilization be improved.

Working capital plays vital role in the success or failure of business. The working capital is the life-blood and controlling nerve of the business. The excess working capital as well as short working capital is harmful for business. The aspect of working capital is concerned with short term financing decision has never received much attention in the literature of finance. Because of the earlier emphasis of financial management was more on long term

financial decision, which led to the growth and development of the many useful theories concerning these decisions as compared to short term financing decision (Pradhan, 1986:2).

However in the recent years, it has been realized that the area of working capital intricately interwoven with the successes and the failure of the enterprises. Today one may come across with the situation where shortage of fund for working capital many business to fail and in less served cause, has situated their growth (Martin, 1972: xi).

This aspect of financial management is equally applicable to the small as well as large scale enterprises. The only difference is that in small firm, working capital management may be the factor that decides success or failure where as in bigger firms, efficient working capital management can significantly affect the firm's risk return and share price (Gitman, 1985:320).

1.2 Focus of the study

Every manufacturing firm needs various types of assets to run the production process without any interruption. Some assets are required to meet the needs of regular production and some to meet the expenses and short term obligation of a firm. So, management has to manage properly different types of assets especially required to run the operation of the firm smoothly. To run daily production activities of the company, besides the manpower, equipments etc, one of the major components is working capital. So, this study focuses on how working capital management is managing in Nepalese manufacturing company.

Working capital management practices in Nepalese manufacturing enterprises provide totally a different picture. The past trend of many manufacturing companies had given emphasis in fixed asset, so they are facing financial problem all the time, in result shows lower efficiency. The government policy to concentrate more on fixed assets has overlooked the financing of working capital. So in order to create the culture of risk bearing ability through commercial

prudence and professionalism, the aspect of working capital should be treated in the same way as fixed capital, while deciding the structure of the manufacturing companies. Recently short term financial decision has never received much attention in the literature of finance because of earlier emphasis of financial management was more long-term financial decision, which led to growth and development of many useful theories concerning these decisions as compared to short-term financial decision.

However in recent years in has been realized that the area of working capital intricately inter woven with causes of failure of such situation where shortage of funds for working capital has led many business to fail and in less server caused has stunted their growth.

1.3 Brief description of Bottlers Nepal Limited

Bottler Nepal Limited (BNL) was established in 1973 in Balaju, Kathmandu, Nepal as a private limited company under the Company Act 1964. It was converted in to public limited company in 1984. Coca-Cola was introduced in Nepal in 1973. That time it was imported from India. The local production of Coca-Cola begins in 1979 by the Bottlers Nepal Limited. Coca-Cola has been licensing bottlers around the world. Bottlers Nepal Ltd. situated at the Balaju Industrial District is also one of the host companies of Coca-Cola for Nepal established in 1979 under the Company Act, 1964. The registration no. of Bottlers Nepal Ltd. is 140/041. The Company was started as a private enterprise & converted into a public enterprise in 1984 issuing shares to general public. The company is managed by Singapore based F & N Coca Cola Pte. Co. Ltd. The company covers 10,648 sq. m. of land & building covers 5823 sq. m. It is one the world's most famous multi-national company. The fully automatic Effluent Treatment Plants (ETP) are established and both its plants and has been operational since 2001, to protect the local environment as well as meet the standards of the Coca-Cola Quality System (CCQS). Different types of inputs are used for the production of different products. All the inputs are not available in the Nepali market, thus it is imported

from Singapore, Iran, Pakistan, Indonesia, Germany and India. Quality products are main focus of BNL. They have well equipped laboratory for the identification of good quality finished goods. The raw materials for the soft drink production are imported from France & USA. The crown crocks are imported from Philippines, Sri Lanka, & Singapore. The sugar is bought from the Nepalese market.

The main objective of this company is to produce soft drinks and to bottle under the brand name of coke, fanta, sprite etc. In 1986 under the company act, 1964 a subsidiary company called Bottlers Nepal (Terai) Limited, was established in Chitwan district, Bharatpur Narayangadh area with the objectives of producing and bottling soft drinks under the brand name of coke, sprite, fanta (orange , lemon and soda). These products are transferred into the markets in 1000ml, 500ml non-returnable plastic bottles and 200ml, 250ml and 175ml returnable glass bottles.

The installed capacity of the plant is 350 bottling per minute. It is the leading multinational company among the manufacturing and processing company in Nepal.

1.4 Statement of the problem

Working capital management is one of the important topics in literature of finance. It may become difficult in many organizations. In most of the enterprises, the management of working capital has been misunderstood, as the management of money and the managers are found over conscious about the burdening of money rather than its efficient utilization. Regarding the management of working capital sources, most of public enterprises have never been thought seriously. They usually found to depend upon Nepal Government even for overcoming the shortages of Working Capital, in spite of trying to manage Working Capital needs form their own source. Some of Public Enterprises have used depreciation fund and surplus to overcome the problem of working capital. Working capital management has been the most challenging area of modern corporate finance as the management always faces a

trade off between liquidity and profitability of firm.

The one of the main cause in deficiency in working capital is due to administrative negligence in day to day operation. Serious liquidity problem arises due to lower turnover of assets, negative rate of return, inappropriate financing policy. These are major problem of Public Enterprises of Nepal. Moreover many other various factors are responsible for low financial performance (Acharya, 1985: 5).

In practice it may be due to lack of inappropriate assets mix policy. So under such circumstances, improvement in the financial performance of Nepalese manufacturing Public Enterprises is hard to manage. So, the working capital of the company becomes unsatisfactory and not encouraging. Also they used to maintain very high levels of fixed assets, which may show the good position but badly affect the profitability position of the company in the long run. It is due to poor working capital management.

We have to be aware that in the current asset, inventory holds higher percentage, current assets, and bank balance will be in increasing and decreasing trend. Similarly volume of receivables also fluctuates widely. The huge volume of idle current assets balance of the company contributes towards lower profitability. The turnover of receivable will also fluctuate. So, effective working capital management is needed. (Acharya, 1988: 4).

The above stated problems can be looked at by analyzing the various aspects of working capital management. So, selection of this topic could help us to the effective management of working capital in Nepalese manufacturing companies. For this BNL can be chosen as an good alternative. BNL is one of the leading multinational company in Nepal. It is operating in profit since it has started. There are also several others multinational companies which are operating in Nepal but BNL is one of the oldest and its concern companies are operating in almost all the countries. So, BNL can be best alternative for analysis of working capital management.

The following research question may arise while studying:

1) What are the major policies affecting the management of working capital in BNL.
2) What are the structure and utilization of working capital causing problem in BNL?
3) What are the components of working capital which affects the operating income of BNL?
4) Is there need for restructuring capital by emphasizing the internal financing?

1.5 Objectives of the study

The main objective of this study is to examine the behavior and overall management of working capital in BNL. The specific objectives of the study are as follows:

1. To examine the working capital policy of BNL.
2. To examine the structure and utilization of working capital.
3. To assess financial liquidity position and profitability position of BNL.
4. To suggest and recommend for the improvement of working capital to BNL on the basis of findings.

1.6 Significance of the study

Working capital is lifeblood of any organization. The management of working capital is not simple. The minor mistakes on decision making about the adequacy of the working capital may put company into liquidation. So, the basic question arises here is about the management of working capital effectively. So, manufacturing companies can be taken as key instruments for this.

Working capital management practices in Nepalese manufacturing companies provide different picture. The past trend of many manufacturing companies had given emphasis in fixed asset. So they are facing financial problem all the time, in result it also shows lower efficiency. The government policy to concentrate more on fixed assets and has overlooked

the financing of working capital. So in order to create the culture of risk bearing ability through commercial prudence and professionalism, the aspect of working capital should be treated in the same way as fixed capital.

While deciding the structure of the manufacturing companies, the short term financial decision has never received much attention in the literature of finance also. The earlier emphasis of financial management was more on long-term financial decision, which led to growth and development of many useful theories concerning these decisions as compared to short-term financial decision (Pradhan, 1986: 119). However in recent years, it has been realized that the area of working capital is the causes of failure of the situation like shortage of funds.

Working capital is lifeblood of enterprises. The inefficient management of working capital will lead to loss in the short run and it will lead to down fall of the enterprises in the long run. A deeper understanding of the importance of working capital and its satisfactory provision will lead not only to material saving as well as economic use of capital. It can also assert in furthering the ultimate aim of business

So maintaining the optimal level of working capital in the crux problem is strongly related to the trade off between risk and return. In such circumstances an utmost care should be taken in the management of investment of assets because inadequate investment, not only threaten the solvency of enterprise but also affects the growth. Setting optimal level of working capital requires exercises on determining that level of current assets, where cost of liquidity and illiquidity is minimum. The aspect of determining appropriate proportion of working capital in the structure of total assets comes under the preview of working capital policy.

The unnecessary blocking of working capital, administrative negligence in day to day operation and serious liquidity problem are the main causes of failure the manufacturing companies of Nepal (Leslie, 1971: 1-2).

Hence, this study wills diagnosis the relationship of working capital management to the efficiency of the enterprise as a whole. It will also be helpful for profitability with proper management of working capital and its components.

1.7 Limitations of the study

Data collection of related field is very difficult in Nepal. In order to make a study on such topic more fruitful, it is essential that the study on this topic be on frequent time intervals. Here, again such type of monthly, quarterly, half yearly, data could not be obtained. Due to this, study has been forced to use annual data, which are available in financial statements i.e. profit and loss account, balance sheet.

The study is limited to:

i. There is various aspect of financial management but this study is concerned only with working capital management of Bottlers Nepal Limited.
ii. The data are used in round figures from *FY 2057/58 to 2066/67.*
iii. Basically that of financial statement provided by manufacturing company are used for analysis, hence they are secondary in nature.
iv. Most of the financial tools are embodied for analyzing the working capital management.

1.8 Organization of the study

The study will be organized in five chapters. The titles of each chapter are as follows.

Chapter 1:- Introduction

Chapter 2:- Review of Literature

Chapter 3:- Research Methodology

Chapter 4:- Data presentation and analysis.

Chapter 5:- Summary, Conclusion and Recommendations

Chapter one contains introductory matters, which describes the introduction, statement of the problem, significance of the study, objectives of the study, need of study, limitations of study and organization of overall study.

Chapter two deals with review of literature relating to working capital management. It has organized into two different sections. One contains conceptual framework related to working capital, and another section contains the review of related studies.

Chapter three contains methodology employed in the study. In includes the introduction, research design, nature, source of data, and tools of analysis and definition of key terms.

Chapter four contains the presentation and analysis of data through the way of designed methodology. From analysis interpretation, major findings that has been deduced.

Summary, conclusions and recommendations of the study have been presented in Chapter five.

HAPTER-II

REVIEW OF LITERATURE

2.1 Introduction

The term working capital is concerned only with the management of current assets and current liabilities. It is controlling nerve of business. So success or failure of any enterprises depends upon it. So far as the management of working capital in Nepalese manufacturing enterprises is concerned, different management experts and student of M.B.S, deriving the working capital management of various enterprises, have undertaken a number of studies. Now, in this chapter the main focus will be on review of literature. Moreover in order to make this study more comprehensive it is important to go through relevant literature. For this, the chapter is divided into two parts i.e. conceptual framework and review of related studies.

2.2 Working capital practices

Working capital management practices in Nepalese manufacturing enterprises provide totally a different picture. The past trend of many manufacturing companies had given emphasis in fixed asset, so they are facing financial problem all the time, in result shows lower efficiency. The government policy to concentrate more on fixed assets has overlooked the financing of working capital. So in order to create the culture of risk bearing ability through commercial prudence and professionalism, the aspect of working capital should be treated in the same way as fixed capital, while deciding the structure of the manufacturing companies. Recently short term financial decision has never received much attention in the literature of finance because of earlier emphasis of financial management was more long-term financial decision, which led to growth and development of many useful theories concerning these decisions as compared to short-term financial decision (Pradhan, 1986: 119).

However in recent years in has been realized that the area of working capital intricately inter woven with causes of failure of such situation where shortage of funds for working capital has led many business to fail and in less server caused has stunted their growth (Martin, 1972: XIII).

Working capital is lifeblood of enterprises. The inefficient management of working capital will lead to loss of profits in the short run, and also it will lead to down fall of the enterprises in the long run. In this sense, the cost of inadequate planning in the use of working capital is immeasurable. A deeper understanding of the importance of working capital and its satisfactory provision can lead not only to material saving, as well as economic use of capital but can also assert in furthering the ultimate aim of business (Leslie, 1971: 17).

So, maintaining the optimal level of working capital is the crux problem as it's strongly related to the trade off between risk and return. In such circumstances an utmost care should be taken in the management of such assets because in adequate investment, not only threaten the solvency of enterprise but also affects the growth. Setting optimal level of working capital requires and exercises of determining that level of current assets, where cost, cost of liquidity and illiquidity total is minimum. The aspect of determining appropriate proportion of working capital in the structure of total assets comes under the preview of working capital policy. The unnecessary blocking of working capital, administrative negligence in day to day operation and serious liquidity problem are the main causes, to failure the manufacturing companies of Nepal. Most of Nepalese manufacturing companies are operating in loss, though they are following aggressive approach of working capital management.

2.3 Conceptual review

Working capital management refers to the proper management of firm's current assets and current liabilities. It is concerned with all decisions and acts that influence the determination of the appropriate level of current assets and their efficient use as well as the choice of the methods of financing them, keeping in a view of liquidity. It is needed to run the organizations, day to day in an efficient manner. Thus working capital and total current assets are synonymous. It is also called circulating capital, since it keeps on circulation, the course of business operation. Business starts with current assets, which is purchase of inventory at sometime. Inventory may be of raw materials, semi-finished goods, and finished goods. The inventory is converted into receivables and receivables into current assets again. Thus the cycle becomes complete. This kind of cycle keeps on operating the organizations. The length of cycle would different, defending upon the nature of business. Generally cycle would be short for non-manufacturing company.

Working capital management is the functional area of finance that covers all the current accounts of the firm. It is covered with the adequacy of the current assets as well as the level of the risk possessed by the current liabilities. It is the discipline that seeks proper policies for managing current assets and liabilities and practical techniques for maximizing the benefits from managing working capital (Hampton, 1986: 219).

In considering the control of the funds of a business we led inevitably to question, the management of the group of balance sheet items to which the unfortunate term working capital is often applied. Working capital is defined customarily as current assets (stocks, debtors, cash and short term investments) less current liabilities (creditors and short term funding). The unfortunate aspect of the working capital is that there is a literal implications that other items of capital usually referred to a ‘fixed’ don’t work and thus by deduction don’t pay their way. In a successful enterprise such as interpretation would be patently

erroneous and it is perhaps for this reasons that some suggest that a more suitable term for current assets less current liabilities is ‘circulating capital’ or more rarely ‘fluctuating capital’; accountants usually refers to net current assets (Peacock and Taylor, 1981: 185).

Working capital is controlling nerve of business organizations. The terms working capital of trend is used to refer the firm's current assets (current assets, marketable securities, account receivable, and inventories). Working capital refers to the fact that most of its components very closely related with the label of production and sales, working capital referred to as short term finance. Gross Working Capital refers to firm's total current assets. Net working capital to current assets minus current liabilities. Working capital, may be defined assets held for current use within a business less the amount due to those await settlement in short term in whatever form. This idea embraces the recurring transaction from current assets to inventories to receivables to current assets that form, the conventional chain of business operations. Funds employed for short-term are mainly for working capital or operational business. For day-to-day operation, a firm will have to provide money towards, the purchase of raw materials, payments of wages and salaries, to extend credit to buyers of goods as well as to meet other day to operations. Working capital management is concerned with the problems that arise in attempting manage the current assets, current liabilities and interrelationships that exist between them. The current assets refers to those asset which in the ordinary course of value and without disrupting the operation of the firm. The major 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 current assets or earnings of the concern. The basic current liabilities are bills payable capital overdraft outstanding expenses. The goal of working capital management is to manage the firm's current assets and current liabilities in such a way that the satisfactory level of working capital is maintained.

The two concepts of working capital, gross and net are not exclusive; rather they have equal significance from management view point. The gross working capital concept focuses attention on two aspects of current assets of management (a) optimum investment in current assets (b) Financing of current assets.

If We...	Then
1. Collect receivables faster	**1. We release cash from the cycle**
2. Collect receivables slower	**2. Our receivable soak up cash**
3. Get better credit (in terms of duration or amount) from suppliers	**3. We increase our cash resources**
4. Shift inventory faster	**4. We free up cash**
5. Move inventory slower	**5. We consume more cash**

2.3.1 Concepts of working capital

There are two concepts of working capital: gross and net.

The term "gross working capital" also referred to as working capital, means the total current assets. Similarly, "net working capital" can be defined in two ways: (I) the most common definition of net working capital is the difference between current assets and current liabilities; (II) and alternative definition of working capital is that portion of a firm's current assets which is financed with long term funds (Gitman, 1988: 473).

Working capital has to be regarded as one of the conditioning factors in the long-run operations of firm which is often inclined to treat it as and 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 (Kuchhalam, 1981: 128).

The gross working capital, simply called as working capital, refers to the firm's investment in current assets. Current assets are the assets which can be converted into cash within an

accounting year (or operating cycle) and include cash, short-term securities, debtors, bills receivable and stock (inventory). Net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected for payments within an accounting year and include creditors, bills payable and outstanding expenses. Net working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities. A negative net working capital will occur when current liabilities are in excess of current assets.

The two concepts of working capital-gross and net are not exclusive; rather they have equal significance from management viewpoint. The gross working capital concept focuses attention on two aspects of current assets management. (a) optimum investment in current assets and (b) financing of current assets. The consideration of the level of investment in current assets should avoid two-danger points-excessive and inadequate investment in current assets. Investment in current assets should be just adequate, nor more not less, to the needs of the business firm. Excessive investment in current assets should be avoided because it impairs firm's profitability, as idle investment earns nothing. On the other hand, inadequate amount of current assets can threaten solvency of the firm, if it fiats to meet its current obligations. It should be realized that the working capital needs of the firm might be fluctuating with changing business activity. This may cause etches or shortage of working capital frequently. The management should be prompt to initiate an action and correct imbalances (Pandey, 1994: 665).

The definitions described above convey in some 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 (Mathur, 1979: 97).

1) Short Life: - Working capital is characterized by assets with a life span of less than 1 year such as current assets marketable securities, accounts receivable, and inventories

etc. This short life span leads to high volatility in the level of investments required to finance working capital.

2) Nearness to Current Assets or Liquidity: - This basic characteristic constitutes the first line of defense against technical insolvency. Current assets are the most liquid assets haring zero conversion time and 100 percent conversation rate. But for inventory and marketable securities two factors i.e. (I) nearness to current assets or amount of time required converting assets into current assets, and (II) Price realized on conversion must be considered.

3) Lack of Synchronization: Since the enterprise cannot produce on order only and cannot insist on current assets payments there is always the problem of synchronization in current assets 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.

Source of changes in working capital needs

Source of change	**Working Capital Affected**	**Reason**
Sales Volume	Permanent	Different level of current assets receivable and inventory need at new sales level.
Seasonal and cyclic factors	Variable	Receivable and inventory must be available on temporary basis.
Technology	Permanent	Level of inventory must support the new production capability.
Policies of firm	Permanent and variable	Some policies tie up working capital others free it.

2.3.2 Sources of working capital

Depending upon the timely needs of working capital two different sources can be used to finance the working capital needs of any enterprise.

a) For regular or permanent working capital: - The issue of shares and debentures.

b) For variable or seasonal working capital:- Depending upon the volatile nature of the enterprise activities the following sources can be used a finance such working capital indigenous bankers, commercial banks, public deposits, retained earning or plough back of profits and special finance corporations.

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 expenditure can be controlled and planned its income is usually subject to random variation and is not controllable (Gollaghar, 1987: 35).

Working capital management is a significant facest of financial management. Its importance stem from two reasons.

1) Investment in current assets represents a substantial portion of total investment.

2) Investment in current assets and the level of current liabilities have to be geared quickly to changes in sales. To be sure, fixed assets investment and long term financing are also responsive to variation in sales. However, this relationship is not as close and direct as it is in the current assets of working capital components.

The importance of working capital management is reflected in the fact that financial managers spend a great deal of time in managing current assets and current liabilities. Arranging short-term financing, negotiating favorable credit terms, controlling the movement of current assets, administering accounts receivable and monitoring the investment in inventories consume a great deal of time of financial managers.

The certain aspects and considerations relating to overall working capital management are:

- Characteristics of current assets.
- Factor influencing working capital requirements
- Level of current assets
- Current assets financing policy

2.3.3 Characteristics of current assets

In the management of working capital, two characteristics of current assets must be borne in the mind: (i) short life span and (ii) swift transformation into other assets forms.

Current assets have a short life span. The life span of current assets depend upon the time required in the activities of procurement, production, sales and collection and the degree of synchronization among them. Each current assets is swiftly transformed into other assets form: current assets is used for acquiring raw materials; raw materials are transformed into finished goods; finished goods generally sold on credit are converted into account receivable and finally account receivable on realization generate current assets.

The short life span of working capital components and their swift transformation from one form into another has certain implications.

- Decision relating to working capital management is repetitive and frequent.
- The difference between profit and present value is insignificant.
- The close interaction among working capital components implies that efficient management of one component cannot be undertaken without simultaneous consideration of other components.

2.3.4 Factors influencing working capital requirements

The working capital need of the firm is influenced by numerous factors. The important ones are:

- **Nature of business:** The working capital requirement of the firm is closely related to the nature of its business. A service firm which has a short operating cycle which sells predominantly on current assets basis has modest working capital requirements. While a manufacturing concern which has a long operating cycle and which sells largely in credit has a very substantial working capital requirements.
- **Seasonality of operations:** Firms which have marked seasonality in their operations usually have highly fluctuating working capital requirements. As a firm manufacturing ceiling fans sales reaches a peak during the summer months and drops sharply during the winter months. On the other hand, a firm manufacturing product like lamps, which have fairly even sales round the year, tends to have stable working capital needs
- **Production policy:** A firm marked by pronounced seasonal fluctuating in its sales may pursue a production policy which may reduce the sharp variations in working capital requirements. As a manufacture of ceiling fans may maintain a steady production throughout the year rather than intensify the production activity during the peak business seasons. Such a production policy may dampen the fluctuations in working capital requirements.
- **Markets conditions:** The degree of competition prevailing in the market place has an important bearing on working capital needs. When competition is keen, a larger inventory of finished goods is required to promptly serve customers who may not be inclined to wait because other manufactures are ready to meet their needs. Further, generous credit terms may have to be offered to attract customers in a highly

competitive market. Thus, working capital needs tend to be high because of greater investment in finished goods, inventory, and account receivable. If the market is strong and competition is weak, a firm can manage with smaller inventory of finished goods because customers can be served with some delay. Further in such situation the firm can insist on current assets payment and avoid lock-up of funds in account receivables. It can even ask for advance payment, partial or total.

- **Conditions of supply:** The inventory of raw materials spares and stores depend upon the conditions of supply. If the supply is prompt and adequate, the firm can manage with small inventory. However, if the supply is unpredictable and scant, then the firm, to ensure continuity of production, would have to acquire stocks as and when they are available and carry larger inventory on an average. A similar policy may have to be followed when the raw material is available only seasonally and production operations are carried out round the year (Chandra, 1997: 423-427).

2.3.5 Level of current assets

An important working capital policy decision is concerned with the level of investment in current assets. Under a flexible policy, the investment in the current assets is high. Under restrictive policy the level of investment in current assets is low.

A flexible policy results in fewer production stoppage, ensures quick deliveries to customers and stimulates sales. A restrictive current assets policy may lead to frequent production stoppages, delayed deliveries to customers and loss of sales. These are the costs that the firm may have to bear to keep its investment in current assets low.

Determining the optimum level of current assets involves a trade off between the costs that rise with current assets and cost that fall with current assets. The former are referred to as carrying cost and the later as the shortage cost. Carrying cost is mainly in the nature of the

cost of financing a higher level of current assets. Shortage cost is mainly in the form of disruption in production schedule, loss of sales and the loss of customer goodwill.

2.3.6 Current assets financing policy

The components of working capital constitute the current assets and they're way financing i.e. current liabilities. The term current assets refers to those assets which is the ordinary course of business can be or will be turned into current assets within one year without undergoing a diminution in value and without disrupting the operations of the firm (Khan and Jain, 1993: 604).

After establishing the level of current assets, the firm must determine how these should be financed. The investment in current assets may be broken into two parts: permanent current assets and temporary current assets. The former represents what the firm requires even at the bottom of its sales cycle, the later reflects a variable component that moves in the line with seasonal fluctuations (Chandra, 1997: 428).

In an enterprise the level and quality of current assets and current liabilities is guided by the working capital policy and management adopted by it. Working capital management involves all aspects of the administration of current assets and current liabilities.

In other words, working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities, and the interrelationships that exist between them. But working capital polices concerned with two sets of relation among balance sheet item (Weston and Brigham, 1984: 284).

The first policy question concerned the relationships among type of assets and the way these assets are financed. The second policy questions deals with the determination of the level of total current assets to be hold.

The crux of the problem whole formulating working capital policy is to maintain optimality on (a) the level of investment is current assets and (b) the financing of current assets. There should be optimum investment in the level of current assets because excessive or idle investment in current assets earns nothing to the enterprise and consequently affects the profitability. On the other hand, inadequate level of investment in current assets threatens the solvency of the enterprise if it fails to meet obligation when they become due. So, working capital policy should be designed to overcome such imbalance when they arise.

In the same way the financing aspects of currents should not be over looked in its management. Because whether to use long term or short-term funds to finance currents have significant impact on an enterprise risk or return, liquidity and profitability. As it is known funds long term as well as short term- involve cost. And cost of financing is a deciding factor in the use of type of funds in any enterprise.

Generally short-term funds have lower cost of financing and are preferred to be used in currents but it may hold good always. Because depending upon the nature of management towards risk, liquidity, and profitability, the enterprise can adopt one of the varieties of approaches to fit its particular working capital financing requirements. The following are the main approaches of financing the working capital need of the enterprise (Mathur, 1979: 279).

a) Aggressive approach

In the approach variable as well as a portion of permanent current assets is financed through short-term borrowing. Some aggressive firms may even finance a part of their fixed assets with short financing. Hence, this sort of mix financing increases the profitability and exposes towards risk by financing relatively larger portion of its assets through lower cost short term borrowing.

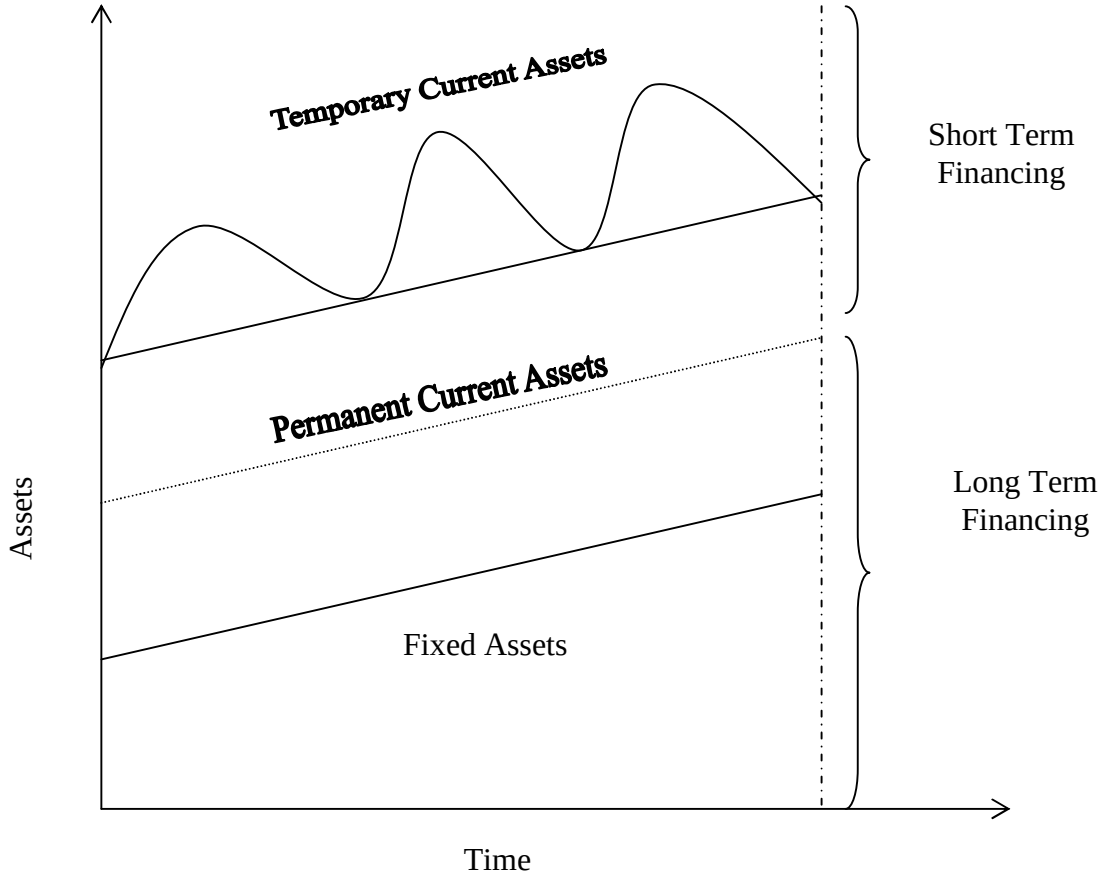


Fig.2.1. Aggressive financing

b) Conservative approach

The financing policy of the firm is said to be conservation when it depends more on long-term funds for financing needs. Under a conservative plan, the firm finances its permanent assets and a part of temporary current assets with long term financing. Thus, in periods when the firm has no temporary current assets, it stores liquidity by investing surplus funds into marketable securities. The conservative plan relies heavily on ling term financing and therefore, is less risky. The conservative financing policy is shown in Fig. Note that when the firm has no temporary current asset e.g. at (a) and (b) the long-term funds released can be invested in marketable securities to build up the liquidity position of the firm. It is less risk approach resulting lower returns.

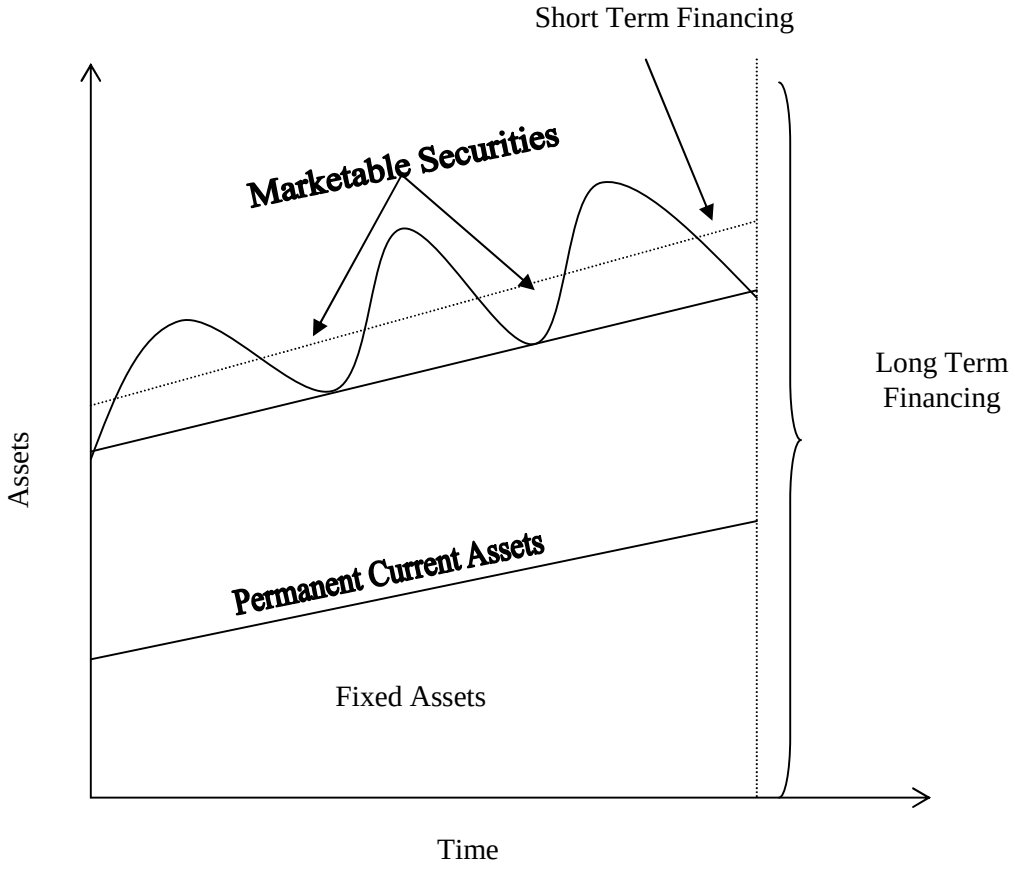


Fig.2.2. Conservative financing

c) Hedging or matching approach

The firm can adopt a financial plan, which involves the matching of the expected life of assets with the expected life of the source of funds raised to finance assets. Thus, a ten-year loan may be raised to finance a plan with an expected life of ten years; stock of goods to be sold in thirty days may be financed with a thirty- day bank loan and so on. The justification for the exact matching is that, since the purpose of financing is to pay for assets, the financing should be relinquished when the assets is expected to be relinquished using long term financing for short-term assets is expensive as funds will but be utilized for the full period. Similarly financing long-term assets with short-term financing is costly as well as inconvenient as arrangement for the new short-term financing will have to be made on a continuing basis. This approach of working capital management entails moderate risk with moderate returns.

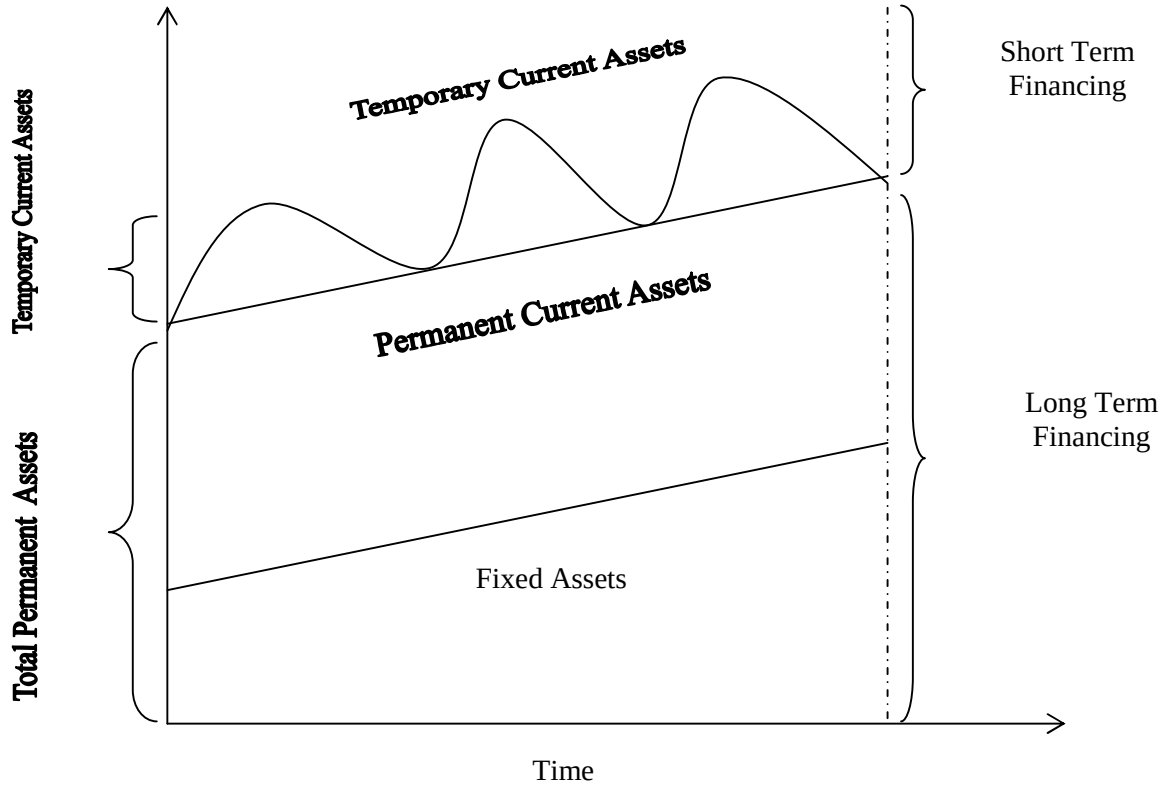


Fig.2.3. Hedging or matching approach

Conclusion

Conservative or loose working capital policy refers to that policy under which a firm keeps high level of investment in working capital variables like high level of receivable through liberal policy, high inventory, and current assets/bank balance. While aggressive or tight working capital policy follows the minimum way between aforementioned two extreme working capital policies (Pandey, 1994:383-384).

Putting it all together

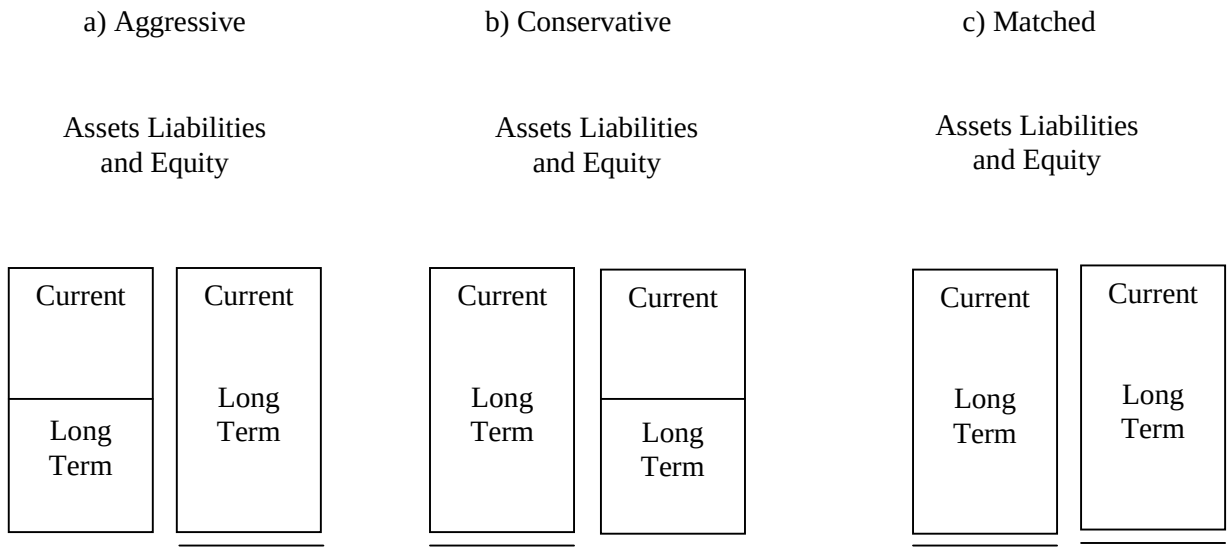


Fig.2.4. Aggressive, conservative, and matched financing together

d) The cost trade-off

Working capital management involves decision upon the amount and composition of current assets and how the finance these assets. The relative proportion of liquid assets the lesser the risk of running out of current assets of all other things are equal. Profitability, unfortunately, also will be less. The longer the composite maturity schedule of securities used to finance the firm the less the risk of current assets insolvency, all other things being equal. Again the profits of the firm are likely to be less. Resolution of the trade off between risk and profitability with respect to these decisions depend upon the risk preference of management (Pandey, 1994: 380).

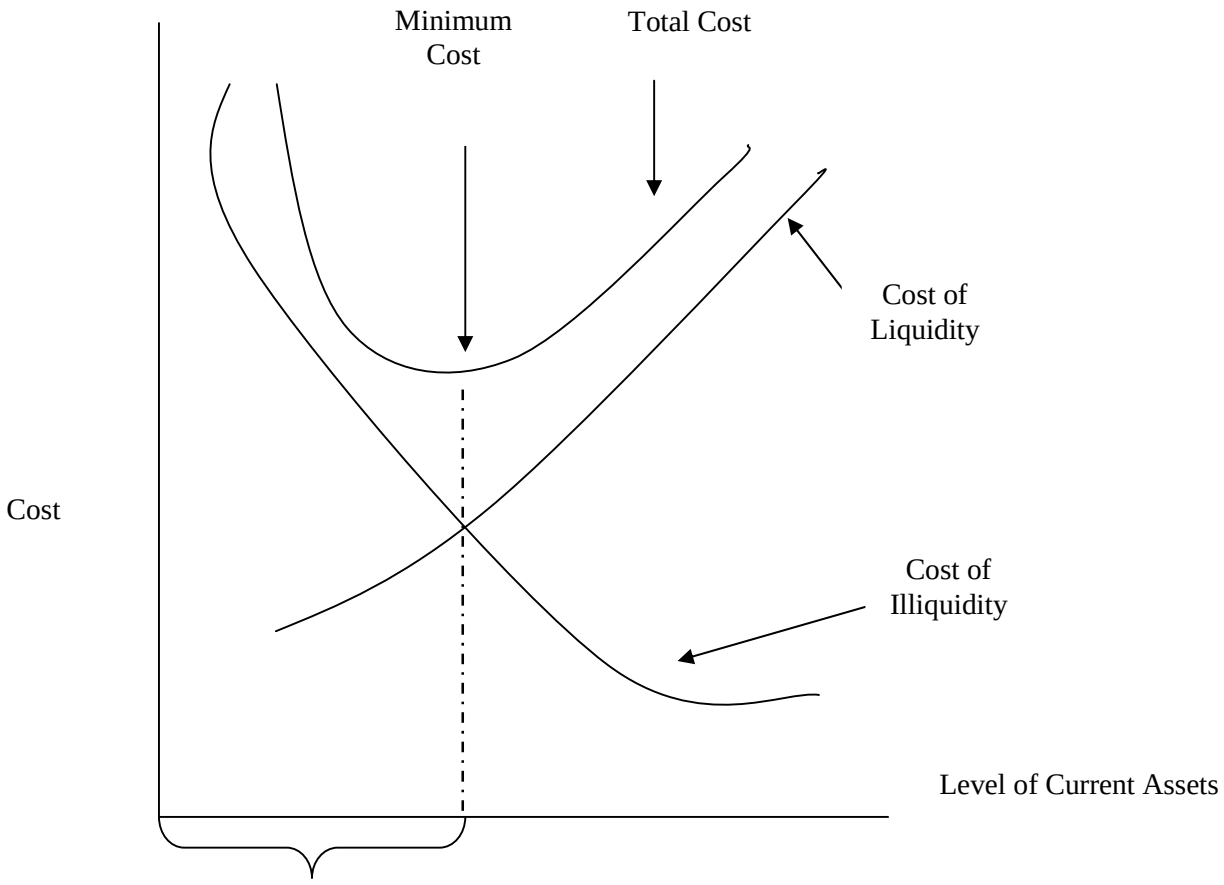


Fig.2.5. Cost trade-off

2.3.7 Permanent and temporary working capital

The need or current assets arise because of the operating cycle. The operating cycle is a continuous process and, therefore, the need for current assets if felt constantly. But the magnitude of current assets needed is not always same, it increase and decrease over time. However, there is always a minimum level of current assets, which is continuously required by the firm to carry on its business operations. This minimum level of current assets is referred to as permanent, or fixed, working capital. It is permanent in the same way as the firm's fixed assets are. Depending upon changes in production and sales, the need for working capital, over and above permanent working production and sales, the need for working capital, over and above permanent working capital, will fluctuate. For example,

extra inventory of finished goods will have to be maintained to support the peak periods of the sale and investment in receivables may also increase during such periods. On the other hand, investment in raw material, work in process and finished goods will fall if the market is slack. The extra working capital, needed to support the changing production and sales activities, is called fluctuating, or variables or temporary, working capital. Both kinds or working capital-permanent and temporary- are necessary to facilitate production and sale through the operating cycle, but temporary-working capital is created by the firm to meet liquidity requirements that will last only, temporarily. Figure 2.6. Illustrates difference between permanent and temporary working capital. It is shown in figure that permanent working capital is stable over time, while temporary working capital is fluctuating-sometimes increasing and sometimes decreasing. However, the permanent working capital line need not be horizontal if the firm's requirement for permanent capital is increasing (or decreasing) over period. For a growing firm, the difference between permanent and temporary working capital can be depicted through Figure 2.7.

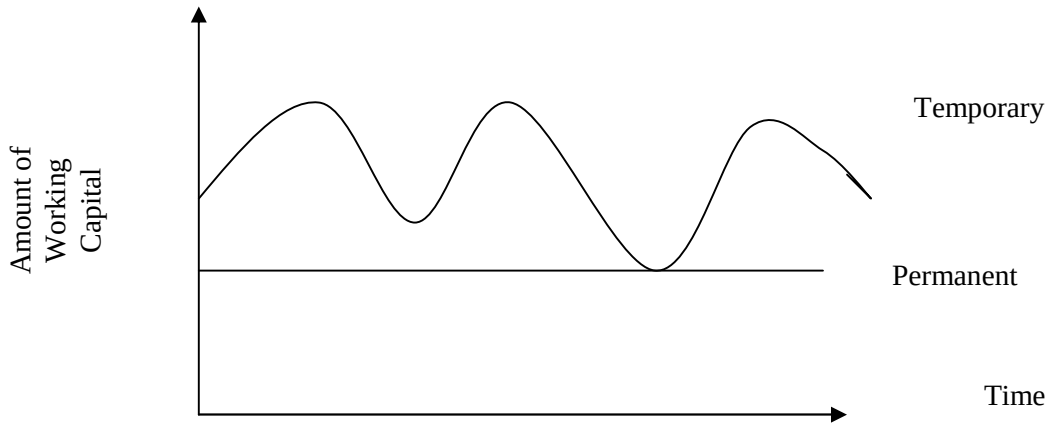
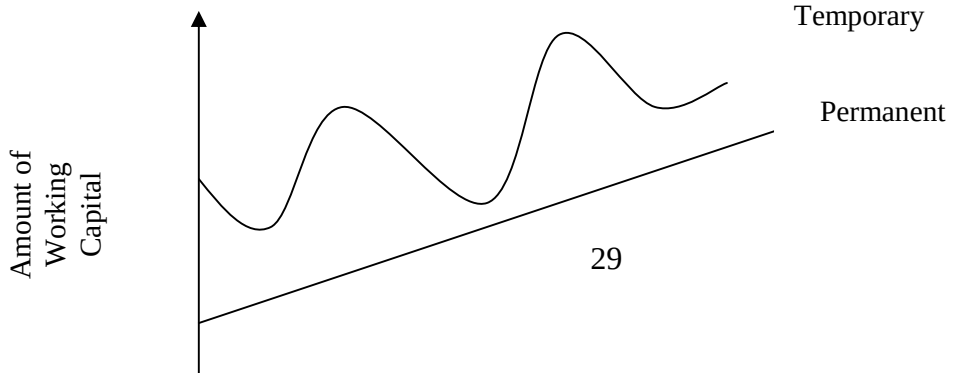


Fig.2.6. Permanent and temporary working capital



2.3.8 Need for working capital

The need for working capital to run the day-to-day business activities cannot be overemphasized. It is known that aim at maximizing the wealth of shareholders. In its endeavor to maximize shareholders' wealth, a firm should earn sufficient return from its operations. Earning a steady amount of profit requires successful sales activity. The firm has to invest enough funds in current assets for the success of sales activity. Current assets are needed because sales do not convert into current assets instantaneously. There is always an operating cycle involved in the conversion pf sales into current assets (Weston. and Brigham., 1984: 123-124).

2.3.9 Operating cycle

There is difference between current and fixed assets in terms of their liquidity. A firm requires many years to recover the initial investment in fixed assets such as plant and machinery or land and buildings. On the contrary, investment in current assets such as inventories and book debts (accounts receivables) is realized during the firm's operating cycle, which is usually less than a year.

Operating cycle is the time duration required to convert sales, after the conversion of resources into inventories, into current assets. The operating cycle of a manufacturing company involves three phases:

- Acquisition of resources such as raw material, labor, power, and fuel etc.
- Manufacture of the product which includes conversion of raw material into work-in-progress into finished goods.
- Sales of the product either fir current assets or on credit. Credit sales create book debts for collection.

These phases affect current assets flows, which most of the time, are neither synchronized nor certain. They are not synchronized because current assets outflows usually occur before current assets inflows. They are not certain because sales and collections, which give rise to current assets inflows, are difficult to forecast current assets accurately. Current assets outflows, on the other hand, are relatively certain. The firm is therefore required to invest in current assets for a smooth, uninterrupted functioning. It needs to maintain liquidity to purchase raw materials and pay expenses such as wages and salaries, other manufacturing, administrative and selling expenses and taxes as there is hardly a matching between current assets inflows and outflows. Current assets are also held to meet any future exigencies. Stocks of raw material and work-in-process are kept to ensure smooth production and to guard against non-availability of raw material and other components. The firm holds stock of finished goods to meet the demands of customers on continuous basis and sudden demand from some customers. Book debts are created because goods are sold on credit for marketing and competitive reasons. Thus a firm makes adequate investment in inventories and book debts for a smooth and uninterrupted production and sale.

The length of the operating cycle of a manufacturing firm is the sum of: (i) inventory conversion period (ICP) and (ii) account receivable period (ARP) or days sales outstanding (DSO). The inventory conversion period is the total time needed for producing and selling the product. Typically, it includes: (a) raw material conversion period (RMCP), (b) work-in-process conversion period (WIPCP). And (c) furnished goods conversion period (FGCP). The account receivable period is the time required to collect outstanding amount from customers. The total of inventory conversion period and book debts conversion period is sometimes referred to as gross operating cycle (GOC) (Moyer, 1991: 562).

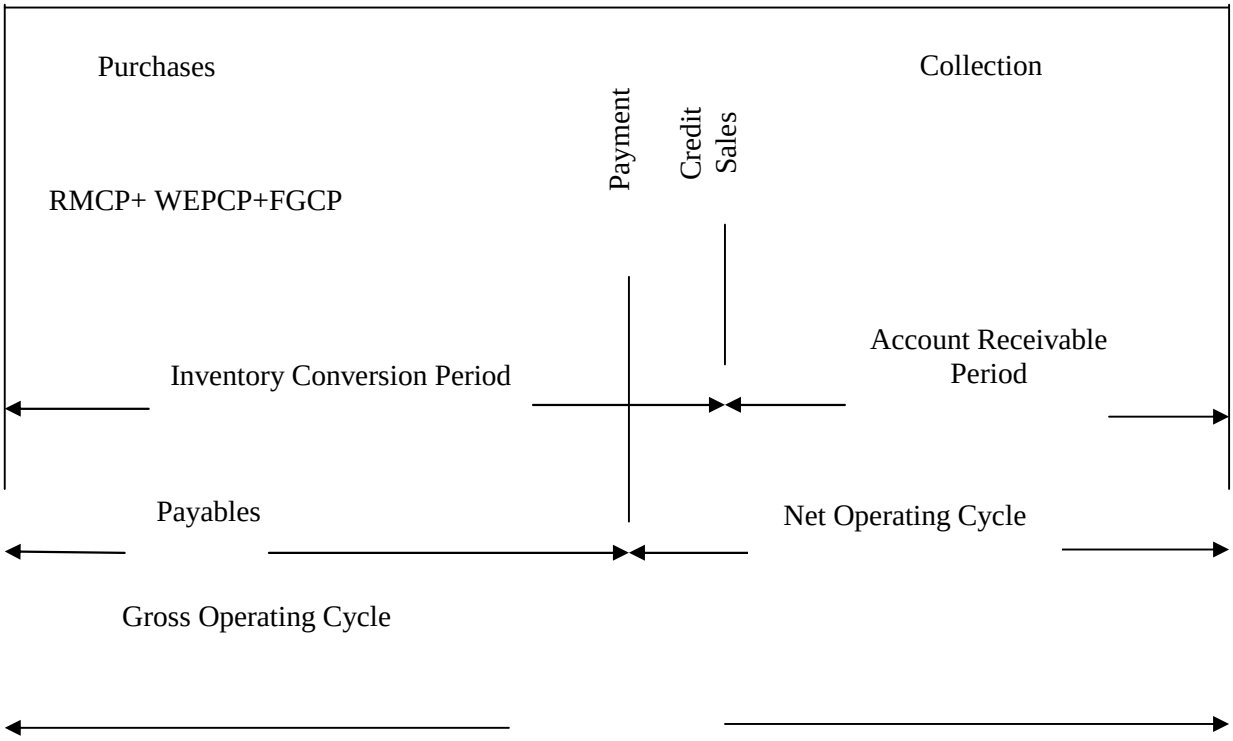


Fig.2.8. Operating cycle of a manufacturing firm

In practice, a firm may acquire resource on credit and temporarily postpone payment of certain

expenses. Payables that the firm can defer are spontaneous sources of capital to finance; investment the length of time the firm is able to defer payment on various resource purchases. The difference between (gross) operating cycle and payables deferral period is net operating cycle (NOC). It depreciation is excluded from expenses in the computation operating cycle; the net operating cycle also represents current assets conversion cycle. It is net time interval between current assets collections from sale of the product and current assets payments for resources acquired by the firm. It also represents time interval over which additional funds, called working capital, should be obtained in order to carry out the firm's operations. The firm has to negotiate working capital from sources such as commercial bank. The negotiated sources of working capital financing are called non-spontaneous

sources. If net operating cycle of a firm increases, it means further need for negotiated working capital.

2.3.10 Cash cycle

The cash cycle is the length of time from the payment for the purchase of raw materials to manufacture a product until the collection of account receivable associated with the sale of the product. Mathematically it is the difference between operating cycle account payable period.

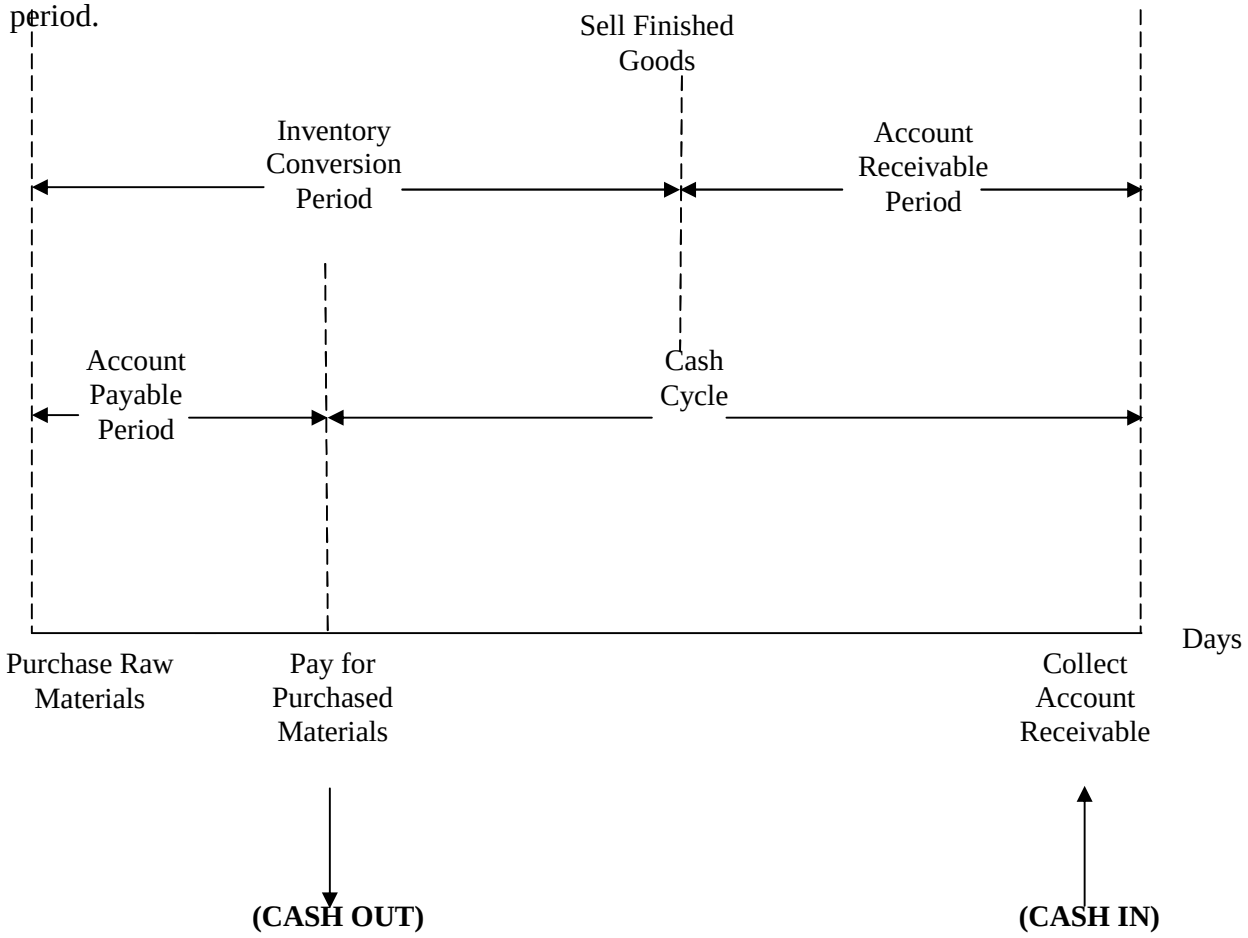


Fig.2.9. Cash cycle

The cash cycle results in the value that equals the length of time between the firm's actual cash expenditures to pay for (invest in) productive resources and (materials and labor) its own cash receipt from the sale of products (i.e. the length of time between paying for labor

and materials and collecting on receivables). The cash cycle thus equals the average length of time an amount is tied up in current assets (Weston and Brigham, 1984:342).

2.4. Review from journals, research

Altman, E.I. and Haldmanad, R.G.(1981) in their study ***"Zeta Analysis: A New Model to Identify Bankruptcy Risk Corporations"*** stated that, the firm must decide about levels of current assets to be carried, as it is not possible to estimate working capital needs accurately. The current assets holdings of the firm will depend upon working capital policy. It may follow a conservative or on aggressive policy. These policies have different risk return implications. The financial manager should determine the optimum level of current assets so that the wealth of shareholders will be maximized. In fact the optimum level of each type of current assets should be fixed. To find out corporate bankruptcy, Zeta mode was developed by *Altman* and other. The authors extended the z core model to include, among other things, the capitalization of leases, and they updated its application. A sample of 53 among bankrupt firms and 58 non-bankrupt firms were employed. Manufacturing and for the first time any study retailing companies were included. On the basis of discriminatory ability, 27 original variables were reduced to 7: the rectun on assets ratio, the stability of earning, the current ratio, the common equity to total capital ratio, and the size of total assets using the linear discriminate model, the authors were successful in predicating bankruptcy up to 5 years prior to failure. Successful classification ranged from 96 percent 1 year before failure to 70 percent 5 years before to failure, a better performance than the z score model. Both quadratic and linear models were tested, with the linear function winning out (Altman, and Haldmanad, 1981: 54).

Pradhan, R and Koirala, K.D. (1982) in their study ***"Aspects of Working Capital Management in Nepalese Corporations"*** aims at examining the various aspects of management of working capital is selected manufacturing public enterprises of Nepal. The

nine public enterprises selected for the study was: (1) Agriculture Tool Factory, (2) Balaju Textiles Ltd., (3) Bansbari Leather and Shoe Factory, (4) Birgunj Sugar Factory, (5) Brick and Tile Factory, (6) Dairy Development Cooperation, (7) Janakpur Cigarette Factory, (8) Nepal tea Development Cooperation, (9) Royal Drugs Limited. The specific objectives undertaken in his study are:-

- To conduct risk return analyzes of liquidity of working capital position.
- To assess the short-term financial liquidity position of the enterprises.
- To asses the structure and utilization of WC and
- To estimate the transactions demand function of working capital and it's various.

His study has mentioned the following findings.

1. It has found that most of the selected enterprises have been activating a trade off between risks and return there by following neither an aggressive nor a conservative approach.

2. It has showed a poor liquidity of most of the enterprises. This poor liquidity position has been noticed as the enterprises have either negative cash flows or negative earnings before tax or they have excessive net current debts which cannot be paid with in a year.

3. The Nepalese manufacturing public enterprises have on a average half of their total assets in the form of current assets, of all the different components of current assets the share of inventories in total assets, on an average, is largest followed by receivable and cash in most of the selected enterprises.

4. The economics of scale have been highest for inventories followed by cash and gross working capital, receivable and net working capital.

5. The regression results also shows that the level of working capital and its components and enterprises desire to hold not depend a sales but on holding costs also.

His study is the concerned with interrelationships that exist between managing current assets and current liabilities. The study manages to focus on net working capital concept. The study has employed ratio analysis discriminate analysis and econometric models for its analysis. This study does not cover all the public enterprises in manufacturing sector. Each selected enterprises does not represent the entire industry in which it falls. The manufacturing public enterprises selected for the study differs in its working and nature. The study period covers ten years period form 1973 to 1982. He has mentioned only findings and conclusion in his study but not recommended any suggestions to solve the finding problems.

These studies show that working capital management is the weakest or neglected part of financial management in most of the public enterprises in Nepal. It seems that Nepalese firms are following conservative approach in financing as well as investing working capital.

A study was conducted by the management consultant and company on the performance on public enterprises of Nepal. In the study it was concluded that the assets management in general and current assets management in particular, was the weakest point in Nepalese public enterprises. It has not received due and serious attention as yet. It was pointed out that financial performance of the public enterprises was poor and indicative mismanagement of the resources. The report also pointed out that because of the lack of operational objectives, application of long range planning, use of modern management tools. Capital budgeting and efforts towards cost control had not been made so far. The study describe there is poor current assets management and mismanagement of resources in public enterprises of Nepal there by causing poor financial performance.

Sharma, R. P. (1984) in his study ***"Financial Performance of Public and Private Sectors Manufacturing Enterprises in Nepal."*** In 1984 altogether six textile industries, three from each public and private sector, were selected for the study. In the study it was concluded that

the each public and private sector, although fluctuating has positive working capital. There was very high liquidity position of public sector industries. Where as majority of private sector industries has adverse situation. Among cash there was encouraging use of cash and bank. Though inventory covered the largest share (more than 60%) of the total assets in the both sectors, the inventory turnover in public sectors was more while debtor's turnover was more or less similar in both sectors. He also found that trade credit and other internal provision through fluctuating in nature were the mach sources of financing working capital in both sectors. And majority of private sector industries had relatively better use of fixed assets than other industries. Moreover, the earning power of public sector textile industries was very low and even negative for many years while that of private sector was quite encouraging. He also pointed out that net profit of private sector was quite encouraging. He also pointed out that both sectors seemed to have neither any sort of dividend policy nor did they pay any sort of dividend. Thus, there was negligible direct contribution of textile industries in the revenue generation of government during the period under study.

Acharya, Dr. K. (1985) in his study ***"Problem and Implementation in the Management of Working Capital in Nepalese Enterprises"*** has been conducted by states that of Nepalese enterprises the management of money and managers are found over conscious abut receiving of money rather than its efficient utilization. Thus the existing problems in the finance are mostly directed towards the management of working capital rather than in any area. In his number of studies it has been repeatedly found that the gross inefficiency exists in the operation of public enterprises. He has stressed on high cost of production, which have left these public enterprises in less secured position. Thus he further added the cost reduction is the only possible measure for smooth operation and long-term existence of the public enterprises in Nepal. The cost reduction program is highly associated with the optimization

of working capital. He has focused some operational and organizational problems of Nepalese public enterprises not following traditional norm 2:1 between their current assets and current liabilities, low rate of inventory turnover, change in working capital in relation to fixed capital has very low impacts over the profitability not following conventional of debt equity as 1:1; then transmutation of capital employed into sales management information, ineffective use of performance evaluation tools and techniques and working capital management has never been considered a managerial job.

Similarly, he has suggested that public enterprises finance staff must be acquainted with the modern scientific tools used for the presentation and analysis of data. He further suggests avoiding the system of crisis decision, which prevailed frequently in their operation. They have to follow system and method for decision-making. Lastly he has given emphasis to optimize its level of investment at a point of time. Neither over nor under investment in working capital desired by the management of enterprises. Both of these situations will erode the efficiency of the concern.

This study is descriptive in nature. He has hot used any data and research tools. The study has covered Nepalese public enterprises (but not mentioned the name of public enterprises.) Each selected enterprise does not represent the entire industry in which it fails.

Shrestha, M.K. (1987) in his study ***"Receivable Management in Selected Public Enterprises Prsahasan"*** states that manager often lacks basic knowledge of working capital and its overall impact on the operative efficiency and financial viability of public enterprises. The study has been based on sample of ten public enterprises i.e. Birgunj Sugar Factory, Janakpur Cigarette Factory, Raghupati Jute Mills, Dairy Development Corporation, National Trading Ltd., Royal Drugs Ltd., National Construction Company of Nepal, Harisiddhi Brick and Tile Factory Nepal, Cheery Ghee Industry Ltd. & Chandeshowari Textile Factory Ltd.

The study has pointed at certain policy; such as deficient in financial planning, neglect of working capital management, deviation between liquidity and turnover etc. He has suggested some measure for their effective funds, determination of management information system, and determination of sound combination of short term and long-term source to finance working capital requirements. *Prof. Shrestha* found that receivable turnover calculated varied, from lowest record of 0.09 times 1 to the highest level of 25.7 times and was less than favorable in selected public enterprises of Nepal. And those revealing favorable turnover have still faced problem of managing account receivables. He pointed that public enterprises did not record a cautions policy to improve collection that would have helped a lot in raising the receivable turnover. The average collection period recorded a variation from a minimum 14 days to the maximum of 4027 days. In the same way the aging schedule of public enterprises has uniform patterns and the outstanding receivable in many instances were very old even exceeding ten years or so forth. It was groped under above three years old receivable. In the selected enterprises the ratio of receivable to current assets varied from a minimum of 0.15 times 1 to maximum 0.9 timed 1. He also found that most of the public enterprises has larger share of receivable to current assets. In most of them extension of additional relaxed credit was a usual phenomenon and they did not have larger amount of receivable outstanding. They had not taken seriously the task to speed up the collection of long outstanding receivable by devising suitable credit monitoring policy. The study thus, concluded that determining the desired investment in account receivable was least considered in most of the public enterprises (Prof. Dr. Shrestha, 1987: 73-88).

Weinrub, and Visscher (1998) in their study on ***"Industry Practice Relating to Aggressive/ Conservative Polocies."*** This study looked at ten diverse industries groups over an extend time period to examine the relative relationship between the aggressive and conservative

working capital practices. Results strongly show that the industries had significantly different current assets management policies. Additionally the relative industry ranking of the aggressive/conservative assets policies exhibited remarkable stability over time. Industry policies concerning relative aggressive/conservative liability management were also significantly different. Interestingly, it is evident that there is a high significant negative correlation between industry assets and liabilities policies. Relative aggressive working capital assets management seems balanced by relatively conservative working capital financial management.

2.5. Review from thesis

Joshi, A.L. (1986) in his study ***"Working Capital Management of Biratnagar Jute Mill"*** seeks to have true insight into the working capital management in Biratnagar Jute Mill. The study has concerned with management of current assets and covers five years period (2036/37 to 2040/41). The main objective of his study was to examine the management of working capital of Biratnagar Jute Mill. The study has embodied various financial ratios as research methodology for measuring Biratnagar Jute Mills financial viability. The study is based on secondary data with opinion survey method and limited to gross concept of working capital.

The study has indicated mismanagement of inventory, no proper policy of cash holding and heavy dependence on short term bank credit. He has recommended for effective working capital management program, following productive investment approach preparing effective sales plan and exhaustive research program using short term bank credit up to certain reasonable limit, maintaining optimum cash balance and making proper utilization of accumulated collection debts. The scope of study is to identify the loopholes and managerial deficiencies of Biratnagar Jute Mill on the part of working capital management. Mr. Joshi has

used ratio analysis to study but not hypothesis and correlation coefficient to verify the significance and relation between working capital components.

Shrestha, S.C. (1997) in his study ***"A Comparative Study of WC Management in Public Sector Brick Factories"*** tried to make a comparative assessment of working capital management of public sector brick factory in Nepal. The objective of his study was to comparative analyzing the working capital management.

He comprises various ratios in research methodology. He has analyzed various components of working capital like cash, inventory, receivable, and current liabilities. The study based on two government brick factories: *Harisiddhi and Bhaktapur brick factory.*

He has found that there is no proper relation between liquidity turnover and profitability of two brick factories. There is no combination between fixed capital and working capital. The analysis indicates that the working capital portion is totally neglected. He has suggested the factory to use financial tools to forecast the working capital. The factories have to keep the record up to data according to standard format. The management must have to be serious regarding working capital management. His study was basically cooperative type. He analyzed various WC components through the significance of working capital components between two factories.

Shrestha, R.K. (1997) in his study ***"Working Capital Management of Bottlers Nepal Ltd."*** is conducted by has focused his study on the appropriateness of investment in current assets to its total assets, liquidity position management of WC needs and utilization of current assets in Bottlers Nepal Ltd.. For this he used different ratios for analysis as research methodology.

From the study he found that the proportion of current assets to total assets was increasing year after year and the proportion of inventories did receivable and cash follow the highest respectively. He also found the liquidity position of Bottlers Nepal Ltd. was very high resoling low profitability and concluded that efficiency of working capital management in Bottlers Nepal Ltd. was poor. For Those problems he suggested paying proper attention to increase investment in current assets with better utilization rather than increasing further investment. He suggested adopting suitable credit policy and providing discount to accelerate its debt collection period. He also recommended setting minimum target rate of return to minimize the gap of achievement.

Sharma, Y.P.(1999) in his study ***"Working Capital Management* of *Manufacturing Companies of Nepal"*** (Listed on Nepal stock exchange Ltd.) has tried to analyze the management of working capital of manufacturing industries and the objectives of this study areas as follows:

(i) study of Working Capital Management and polices adopted by these manufacturing industries.

(ii) empirical testing of variables affecting working capital management, such as, current assets, sales, current liabilities, net profit, total assets, cost of good sold, operation ratio, on the basis of this study he has analyzed, turnover position liquidity, profitability.

It also aim to evaluate the relationship between variables, for this, researcher has set proper research methodology, use of quantitative method, statistical method and qualitative method, from this he has found that, overall profitability of listed Public Enterprises is negative. He has analyzed that Nepalese Public Enterprises is suffering from sickness and they must determine the appropriate Financing mix. These manufacturing companies undertake measures like, identification of needed funds, regular checks, development of marketing

information system, the attitude towards risk and profit determination right combination of short term and long term sources of funds to finance working capital needs. He has further recommended that appropriate combination of investment in current assets, minimizing operating cost, preparing effective sales plan, specific working capital policy improving liquidity position speedy cash conversion period by improving financial performance are the measure ways to make healthy efficient management of working capital of manufacturing Public Enterprises of Nepal.

Aryal, B.P. (2002) in his study ***"Working Capital Management of Nepal Telecommunication (NTC)"*** in the year 2002 has kept the objectives of the study as:

(i) to appraise working capital of NTC with respect to cash, receivables and inventory management.

(ii) to know how far NTC is being able to utilize its current assets properly.

(iii) to evaluate credit policy of NTC and its effectiveness.

(iv) to study the relationship between sales and different variables of working capital.

(v) to shed light on creation and mobilization of fund in NTC.

For this he used tools as: financial ratio analysis, trend analysis, fund flow analysis, arithmetic mean, coefficient of variation, standard deviation, correlation, probable error, coefficient of determination, simple regression analysis, 't'-statistics. Further he gave the conclusion as the overall financial management of NTC was quite satisfactory during his study of five years period. He further writes that NTC has good liquidity position and there was no problem of technical insolvency. Beside this, the research has also indicated some critical aspects of working capital management and has supplemented precise suggestions and recommendation too. He again writes that NTC being public utility keeps a larger

volume of working capital, which indicates excess liquidity position but the sales is quite low as compared to it. The corporation has been facing serious problem of outstanding collection. Overall capital structure of the corporation seems to be ideal for both the creditors and the corporation. But a large portion of long term fund was invested in current assets, where almost half of total current assets were funded by long term sources. Lastly, the researcher conclude the study by emphasizing the control over investment in current assets, application of cash management techniques, concentration of outstanding debt collection and retirement of long term loans.

Pokherel, H.P. (2005) in his study "***Working Capital Management in Nepal (A case study of Bottlers Nepal Ltd.)"*** in the year 2005 on the topic has kept his objective of the study as:

(i) to appraise various aspects of working capital of Bottlers Nepal in terms of liquidity, profitability, efficiency and size

(ii) to examine how far Bottlers Nepal is being able to utilize its current assets properly

(iii) to show the relationship between sales and different variables of working capital such as receivable cash and inventory.

For this he used financial tools to see composition of working capital, turnover position, liquidity position, profitability position, cash conversion cycle. He also used the following statistical tools like: mean standard deviation, correlation coefficient, and simple regression analysis and hypothesis test for data analysis.

After analysis he found that overall financial management of Bottlers Nepal Ltd. was quite satisfactory during five year study period. The corporation has sound liquidity position and there was no problem in technical insolvency. All the variables of working capital as well as volume of sales were in increasing trend and the corporation was operating with attractive

profit. Beside this, the researcher has also indicated some critical aspect of working capital management and has supplemented precise suggestions and recommendations too. The corporation investment in working capital is less. The company has been facing the problem of collecting receivables. The position of cash is not sufficient to meet daily administrative expenses. Overall capital structure of the company seems to be idle. Lastly, researcher concludes the study by emphasizing to reduce the average collection period as well as to increase the position of cash.

2.6. Research gap

The above mentioned were the study on working capital management. Some have taken single manufacturing company and some taking a no. of companies. There are many similarities between them but also there are multiple gaps among the researchers view regarding working capital management. Some have used just ratios to calculate the various aspect of working capital management where as some have used various statistical analysis. The main difference between the other studies and this study is that, this study try to analyze the relationship of WCM with profitability. This study uses the statistical tools like correlation analysis and simple regression analysis to find out the relation of working capital with profitability of the company. It means how working capital affects the profitability of the firm.

Further, pervious study on Bottlers Nepal Limited was up to fiscal year 2062/63 where WCM position seems poor. So, focus of study is also to find out WCM position current situation.

CHAPTER –III

RESEARCH METHODOLOGY

3.1 Introduction

The above-mentioned objectives will be fulfilled by well-settled research methodology. The study is about selected food and beverage industry, Bottlers Nepal Limited has been already streamline to some extent in earlier chapter regarding their growth, objectives statement of problem and working capital practice in general. At the same time relevant literature of working capital management has been reviewed in chapter II to have useful.

Feed back information is as an input in this study on working capital management of BNL but the proper analysis of this study can be meaningful only on the right choice of research tools that help to come meaningful conclusion. The main objective of this study is to analyze the working capital management of BNL. Therefore in this chapter focus has been made on research design, nature, and source of data, tools used for analysis and definition of key terms.

3.2 Research design

Research design is highlighted for obtaining the basic objective of the study. It includes definite procedures and evaluation of the study. This study attempts to make composition and establish the relationship between two or more variables. This study can be termed as analytical informative, descriptive challenging and feed back study. For the study of working capital management of BNL, financial tools, as well as statistical tools with the help of secondary data a qualitative analysis of BNL are employed to achieve prescribed result.

3.3 Nature and sources of data

The study basically depends upon secondary data. The secondary data have been collected from financial statements of various years as well as unpublished official records of company provided by financial, account and other departments of BNL.

3.4 Population and sample

To get the information about working capital management, more representative and comprehensive sample are selected from wide coverage of population. There are more than 40 manufacturing companies listed in NEPSE. Among them Bottlers Nepal is taken as a sample for the study.

3.5 Tools and analysis of data

All the collected data and information have been properly arranged tabulated and calculated to arrive at the realistic analytical steps. Quantitative methods are applied for analyzing the working capital management of BNL.

3.5.1 Financial tools

3.5.2 Statistical tools

3.5.1 Financial tools

Various financial ratios are used to analyze the effectiveness of composition of working capital. Financial ratio analysis is widely used tools for financial analysis, which establish the number or quantitative relationship between two items i.e. variables of the financial statement. It is useful to make financial expression more meaningful and to draw appropriate conclusion from them. So to examine the working capital policy for BNL, ratios concerned with working capital has been extensively used in this study.

In order to make rational decisions in keeping with the objectives of the company and its financial viability, an analysis is undertake by every interested parties such as creditors, investors and also by the company itself. Such analysis varies according to the specific interests of party involved; this analysis is called financial analysis.

Under the analysis, following ratios are analyzed.

A) Working capital policy applied

The working capital policy can be applied in the Nepalese Public Enterprises as follows:

Aggressive policy:

L< TFA

Or, TCL> TCA

Conservative policy:

L = 0

… TCA= 0

Moderate Policy:

L > TFA

Or, TCA > 0

Where.

L= Total equity including general reserves + Total long term loan

TFA= Total fixed assets

TCL= Total current liabilities

TCA= Total current assets

B) Operating cycle and cash conversion cycle

1. Operating cycle (OC)

The operating cycle is the sum of Inventory Conversion Period and Account Receivable Period. The time that elapses between the purchases of raw materials to the sales is referred to as operating cycle.

It is calculated as:

OC (Days) = Inventory Conversion Period (ICP) + Account Receivable Period (ARP) or Days Sales Outstanding (DSO)

Where,

$$\text{ICP} = \frac{\text{Inventories}}{\text{Cost of goods sold}} \times 365 \text{ (Days)}$$

ICP refers to the time lag between the purchase of raw materials and the sale of finished goods.

$$\text{ARP} = \frac{\text{Receivables}}{\text{Sales}} \times 365 \text{ (Days)}$$

ARP indicates the number of days that takes on an average to collect amount receivables.

2. Cash conversion cycle (CCC)

The cash cycle is equal to the operating cycle less Account Payable Period. It is calculated as:

CC (Days) = Operating Cycle (OC) - Account Payable Period (APP)

Where,

$$\text{APP} = \frac{\text{Payables}}{\text{Cost of Goods Sold}} \times 365 \text{ (Days)}$$

APP is the average length of time between the purchases of raw materials and labor and the payment of cash for them.

C) Ratio used in accessing the structure of working capital

It is studied by analyzing following formulas and ratios:

1. Current assets to total assets (CATA)

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

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

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

2. Current assets to net fixed assets (CAFA)

This ratio shows the relationship between the current assets and fixed assets and can be calculated as:

$$\text{CAFA} = \frac{\text{Current Assets}}{\text{Net Fixed Assets}} \times 100 \ (\%)$$

If the ratio is large, it indicates the sound working capital.

3. Cash and bank balance to current assets (CBCA)

It is calculated as:

$$\text{CBCA} = \frac{\text{Cash \& Bank Balance}}{\text{Current Assets}} \times 100 \ (\%)$$

The large ratio indicates the sound working capital management and vice-versa. The working capital is directly affected by it.

4. Cash and bank balance to total assets (CBTA)

This ratio is calculated as under and indicates what percentage of total assets is invested in cash and bank balance.

$$\text{CBTA} = \frac{\text{Cash \& Bank Balance}}{\text{Total Assets}} \times 100 \ (\%)$$

As the ratio increases the risk would decrease and if the ratio is greater the working capital would be greater.

5. Inventories to current assets (ICA)

This ratio implies the percentage of current assets in form of inventory and derived as:

$$\text{ICA} = \frac{\text{Inventories}}{\text{Current Assets}} \times 100 \ (\%)$$

The increase in the ratio is an indication of liberal inventory policy followed by company. If the ratio increases or percentage increases means greater part is occupied by inventory. On the other hand, a current asset is termed as working capital; if the ratio is high the firm will had greater volume of working capital.

6. Inventories to total assets (ITA)

This ratio can be calculated as:

$$\text{ITA} = \frac{\text{Inventories}}{\text{Total Assets}} \times 100 \ (\%)$$

This ratio indicates the percentage of total assets invested in the form of inventories. Inventories are a part of working capital. So, if the percentage increased the working capital automatically increased. The increase in the ratio also indicates liberal inventory policy or blocking of materials in stock.

7. Receivables to current assets (RCA)

This ratio indicates the share of receivables on current assets and is derived as:

$$\text{RCA} = \frac{\text{Receivables}}{\text{Current Assets}} \times 100 \ (\%)$$

The low percentage indicates the low working capital and vice-versa. If the percentage is greater the factory is unable to collect receivables promptly.

8. Receivables to total assets (RTA)

This ratio can be calculated as:

$$\text{RTA} = \frac{\text{Receivables}}{\text{Total Assets}} \times 100 \ (\%)$$

This ratio indicates the percentage of total assets invested in the form of receivables. The increase in the ratio indicates the liberal credit policy followed by the company. The working capital is affected by the ratio because receivables are also a part of working capital, if the ratio increases the working capital also increases.

D) Ratio used in accessing working capital utilization

By analyzing the various turnover ratios the factory's turnover position can be know. The following ratios have been calculated:

1. Current assets turnover (CAT)

This 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

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

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.

2. Net working capital turnover (NWCT)

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

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

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

3. Cash turnover (CT)

This ratio is computed by dividing sales by cash balance and it measure the speed with cash move through an enterprise's operation.

$$\text{CT} = \frac{\text{Sales}}{\text{Cash and Bank Balance}} \text{(times)}$$

This ratio shows the number of the average cash balance is turned over during the year.

4. Receivables turnover (RT)

It is calculated as:

$$\text{RT} = \frac{\text{Sales}}{\text{Receivables}} \text{(times)}$$

It indicates the number of times the receivables are turned over during the year. It gives the general measure of the productivity of the receivable investment. The higher ratio indication the lower amount of working capital and lower ratio vice-versa.

5. Inventories turnover (IT)

It is computed by dividing sales by inventory.

$$IT = \frac{\text{Cost of goods sold}}{\text{Inventories}} (\text{times})$$

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

E) Liquidity position

It is the most important part for the company. It shows the ability of the company to pay its current obligations. The liquidity positions of BNL are computed by analyzing current ratio and quick ratio.

1. Current ratio (CR)

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

$$CR = \frac{\text{Current Assets}}{\text{Current Liabilities}} (\text{times})$$

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

2. Quick ratio or acid-test ratio (QR or ATR)

It is computed by dividing the quick assets by current liabilities.

$$QR \text{ or } ATR = \frac{\text{Quick Assets}}{\text{Current Liabilities}} (\text{times})$$

Where,

Quick Assets = Current Assets - Inventories

As the quick asset doesn't include the amount invested in the inventories. It is reliable to measure the company's liquidity. Generally the quick ratio of 1:1 of company is considered to be sound.

F) Profitability position

The main objective of the company is to earn maximum profit. The positions of the profitability of the company are analyzed with the help following ratio.

1. **Gross profit margin (GPM)**

   It is computed by dividing gross profit by sales.

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

   Where,

   Gross Profit = Sales – Cost of goods sold

   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.

2. **Net profit margin (NPM)**

   Net profit is obtained after deducting operating expenses and income tax form gross profit. It is computed by dividing net profit by sales.

$$NPM = \frac{Net\ profit\ \ after\ tax}{Sales} \times 100\ (\%)$$

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

3. **Return on total assets (ROA)**

   This is computed by dividing net profit after tax by total assets.

$$\text{ROA} = \frac{\text{Net profit after tax}}{\text{Total Assets}} \times 100\,(\%)$$

The ROA is useful measure of profitability of all financial resource invested in the company's assets.

4. **Return on net worth (RNW)**

   It is computed by dividing net profit after tax by net worth

$$\text{RNW} = \frac{\text{Net profit after tax}}{\text{Net Worth}} \times 100\,(\%)$$

It indicates the return to the shareholders, how well the firm has used the resources of the owners. It judges whether the firm has earned of satisfactory return for its shareholders or not. Higher the ratio, higher the return to the shareholders and vice-versa.

G) Working capital management and profitability liquidity

Trade-off

This study is known as *"The Smith first study."* The first study of Smith (1974) came as an overview of management of working capital. He illustrated he idea by using the rate of return on net worth on equity investment as a measure of profitability and net working capital and current ratio as a measure of liquidity.

3.5.2 Statistical tools

Various financial tools are mentioned above to analyze the working capital management of BNL. Here brief introduction of statistical tools have been used this study is given below.

A) Trend line

The series formed by the values of variable at different periods of time is called trend line. This graph is constructed to show the changes in the values of a variable with the changes in

time. Time is taken on x-axis and values of variable on y-axis, then the points are plotted and they are joined by straight line to get required trend line.

B) Bar diagrams

The bar diagrams represent the data by means of bars or rectangles or equal width. The lengths of the bars represent the given figures and width may be of any size. Multiple bar diagrams are used to present tow or more sets of related data. The different bars of each set are placed together and different colours or shades are used to distinguish bars of one type from the other. Time is taken on x-axis and values of variable on y-axis, then the bars are plotted.

C) Coefficient of correlation by *Karl Person's* method

In order to test the relation ship and significance of the variables, during the period of study, it is applied. So, Karl Pearson's correlation coefficient (r) is calculated as:

$$(r_{X,Y}) = \frac{n \quad X.Y - \quad X. \quad Y}{\sqrt{[n \quad X^2 \quad Z(\quad X)^2].[n \quad Y^2 \quad Z(\quad Y)^2]}}$$

Where,

$(r_{X,Y})$ = correlation coefficient

X = the first (independent) variable

Y = the next (dependent) variable

n = number of observations

X.Y = total sum of the product of two variables

X = total sum of independent variable

Y = total sum of dependent variable

X^2 = total sum of square of independent variable

Y^2 = total sum of square of dependent variable

This coefficient can never be more than +1 and –1. Thus + 1 and – 1 are the limit of this coefficient. If the value of coefficient is +1, it shows the perfect correlation and if it is –1, negative correlation. More over if the coefficient of correlation is zero then it means there is no existence of correlation between the variables under study.

D) Probable error (P. E) of coefficient of correlation

P.E, of r is very useful in interpreting the value of r and is worked out as under for Karl person's coefficient of correlation.

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

If r <P.E. It is not all significant, no evidence of correlation between variables

If r >P.E, there is the correlation, but not significant

If r > 6 | P.E, and greater than ≺ 0.5, then it is considered significant at all.

E) Simple regression analysis

In case of simple regression analysis, a single variable is used to predict another variable on the assumption of linear regression i.e. relation of the type defined by (Y = a + b.X) between given variables. The variable to be predicted is called dependent variable and the variable on which prediction is called in dependent variable. The simple regression equation indicates the amount of change in the value of the independent variable for a unit change in dependent variable. Here, Y is dependent variable, X is independent variable, a is intercept of line and b is slope of line.

In this study dependent variables are current assets, net fixed assets, net working capital, net profit, inventory conversion period, account receivable period, account payable period and cash conversion cycle. Same way independent variables are sales, net working capital and gross profit.

F) F-test

F-test is widely applicable in the statistics and especially it is applicable to test:

a) the equality of population variance

b) the equality of several population means

c) the significance of an observed sample multiple correlation

d) the linearity of regression

e) the significance of an observed sample correlation ratio.

F-ratio is calculated as:

Sources of variation	Sum of squares	Degree of freedom	Mean sum of squares	F-ratio
Regression	SSR	k-1	$MSR=\frac{SSR}{k-1}$	$F=\frac{MSR}{MSE}$
Residual	SSE	n-k	$MSE=\frac{SSE}{n-k}$	
Total	SST	n-1		

Where,

SSR = explained variation

SSE = unexplained variation

SST = total variation

MSR = sum of squares between samples / k-1

MSE = sum of squares with in samples / n-k
k = number of samples
n = total number of observations.

3.6 Definition of key term

In order to clarify the term used in this section the following key term are defined.

1. Current assets

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

2. Current liabilities

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

3. Fixed assets

It consists of the assets of the company like site development, building, plant and machinery, furniture and fixtures office appliances, computer.

4. Total assets

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

5. Long tem loan

It includes the loan taken from other institutions which have maturity life more than one year (which includes bond, debentures, bank loan etc).

6. Cash and bank balance

It includes the cash in hand & cash at bank.

7. Receivables

It includes the trade debtors & other debtors.

8. Inventories

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

9. Net worth

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

10. Payables

It includes bills payables and other payables.

3.7 Limitations of research methodology

Each methodology suffers from some kind of limitations. Therefore, the methodology used in this research cannot be different from the common limitations of same type of researches. However in analyzing working capital management of the selected sample, the tools applied cannot best describe the relationship between the variables under study since working capital management tools are based on various assumptions. Hence, the reliability, accuracy and validity of the research findings based on this sample.