

**A STUDY ON WORKING CAPITAL MANAGEMENT
OF
ASIAN THAI FOODS PRIVATE LIMITED, BIRATNAGAR**

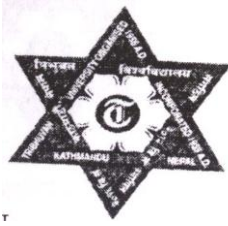
**A THESIS
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T.U Regd. No. 7-1-216-14-99**

**Submitted To:
Office of the Dean
Faculty of Management
Tribhuvan University**

*In partial fulfillment of the requirement for the Degree of
Master of Business Studies (M.B.S.)*

Biratnagar, Nepal
April 2011



TRIBHUWAN UNIVERSITY

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RECOMENDATION

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A STUDY ON WORKING CAPITAL MANAGEMENT

OF

ASIAN THAI FOODS PRIVATE LIMITED, BIRATNAGAR

has been prepared as approved by this department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

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VIVA-VOCE SHEET

We have conducted the Viva-voce examination of the thesis presented by
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"A STUDY ON WORKING CAPITAL MANAGEMENT OF
ASIAN THAI FOODS PVT. LTD."

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

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DECLARATION

I hereby declare that the work reported in this thesis entitled "A STUDY ON WORKING CAPITAL MANAGEMENT OF ASIAN THAI FOOD PRIVATE LIMITED, BIRATNAGAR" submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master's Degree in Business Studies (M.B.S) under the supervision of Prof. Dr. Khagendra Acharya.

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ACKNOWLEDGEMENT

This research paper has been prepared for the partial fulfillment of the requirement needed for the Masters Degree in Business Studies. I would like to express my heartiest gratitude to my research advisor and the chairman of research department Prof. Dr. Khagendra Acharya of Post Graduate Campus, Biratnagar for their valuable guidance, inspiration and encouragement that made it possible to complete this thesis.

I would like to thank Liberians of P.G Campus, Biratnagar for providing necessary information for the thesis.

I would like to thank to my brother Chet Moktan and my all friends who provided me valuable suggestion, motivation & inspiration from the very beginning to the end of the thesis.

I would also like to thank to the proprietor and all staff members of ATFPL who helped me by giving all necessary documents.

Lastly, thanks also go to Mr. Dharma Rai for typing this thesis in a short time.

Biratnagar

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May,2011

Chitra B. Moktan

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ABBREVIATION

ATFPL	=	Asian Thai Food Private Limited
B/S	=	Balance Sheet
B.S	=	Bikra Sambat
C/A	=	Current Assets
C/L	=	Current Liabilities
C/R	=	Current Ratio
C/B	=	Cash & Bank
C/V	=	Coefficient of Variation
DNPL	=	Dabur Nepal Private Limited
F/Y	=	Fiscal Year
G/P	=	Gross Profit
GDP	=	Gross Domestic Production
Misc.	=	Miscellaneous
N	=	Number of items
NPAT	=	Net Profit After Tax
NTDC	=	Nepal Tea Development Corporation
NWC	=	Net Working Capital
P.E	=	Probable Error
P/L	=	Profit & Loss
Q/R	=	Quick Ratio
'r'	=	Correlation
S.D	=	Standard Deviation
T/A	=	Total Assets
W/C	=	Working Capital
X	=	Mean/Average
X	=	Value of 1 st item
Y	=	Value of 2 nd item
%	=	Percentage in 100

CHAPTER – I

INTRODUCTION

1.1 Background of the Study:

Nepal is a landlocked country occupying the total area of 1,47,181 sq. km. It covers 0.03 % area of world and 0.3 % of Asia. Nepal extends from east to west with a length of about 885 km and average width of 193 km. Nepal is a sovereign independent democratic republican country lies between 80 4 and 88 12 east longitudes and 26 22 and 30 27 north latitude. It is bounded on the north by the Tibet, autonomous region of People's Republic of China, the east, south and west by India. The country can be divided into three main geographical regions such as Himalayan which covers 15% of the total area, Hilly region which covers 68% and 17% with Terai region.

Nepal is one of the least developed country in the world. Approximately 42% of all Nepalese live in absolute poverty. There are lacks of basic infrastructure in rural and semi-urban communities and social services such as modern medical care, clean drinking water and adequate sanitation are very limited. Nepal's economy is heavily characterized by predominant agriculture, approximately 42% of GDP is deriving from agriculture and 80% of population are employing in this sector, Now-a-days, the overall performance of this sector has been declining.

Agriculture alone is not sufficient for poverty reductive and overall development of the country. Industrialization is one of the major basic ingredients for progress, modernization and economic development of Nepal. However, the contribution made by it on GDP is very nominal. Despite of contribution made to GDP of the country,

Developing countries will remain associated with various forms of backwardness unless they tackle the problem of economic backwardness through industrialization. Expansion of industry offers prospects of increased employment improve balance of payment and more efficient use of resources.

In present situation industrialization has proved itself a most instrument in speeding up the economic development through establishment of different companies in different sector i.e. manufacturing sector and non-manufacturing sector.

Manufacturing sector is critical to the prescript of sustained growth due to its potential to promote technological capacities, advance the diversification of production and export. Industrialization would absolve rural unemployed persons to these field of production where productivity is possible with reducing agriculture burden. So, the study is related to manufacturing companies.

To run the daily production activities of the company besides the manpower, equipment etc. one of the major component is working capital. Without working capital in manufacturing companies, every other thing does not happen. In manufacturing companies, working capital management plays a vital role in the success or failure of these companies. The working capital management is an important aspect of the manufacturing companies. Every business firm needs various types of assets to carryout their operation, some assets are required to meet long term needs with are fixed assets and some are needed to meet day to day expenses and to pay current obligation which are termed as current assets. Working capital management is related to management of current assets.

Amount invested in the form of raw materials, cash, semi-finished goods etc. put together is called working capital. Lack of knowledge about managing working capital causes harm to the organization and finally pushes it into liquidation. A manufacturing company must have an adequate supply of raw materials to process, labour, power, fuel etc. then the raw materials convert into work-in-progress and then into finished goods and the product sell in market. It also must have capability of waiting for the market and also have an ability to sell in credit in this era of cut-throat competition. Either excess working capital or less working capital is dangerous for the company. So it has to be managed in

such a way that will be the just adequate for maintaining solvency and continuing the business.

A manufacturing company should not have excess working capital; it is a sign of poor management. It impairs firm's profitability through it reduces risk by providing more liquidity. The idle investment in it earns nothing. On the other hand, inadequate amount of working capital can threaten the solvency of the organization if it fails to meet its current obligation. It should be realized that the working capital needs of the firm might be fluctuating with changing business activities. This may cause excess or shortage of working capital frequently. The management should be too prompt to initiate an action and correct the imbalance.

Therefore, as a manufacturing enterprise, Asian Thai Foods Pvt. Ltd. came into existence. This study is concerned with working capital management of Asian Thai Foods Pvt. Ltd. How far the Asian Thai Foods Pvt. Ltd. has been able to manage it's working capital for achieving goal.

1.2 Introduction of Asian Thai Foods:

Asian Thai Foods is the production of instant noodles which was established in 2056 shrawan. This is 'private limited' company in the hold of two equally shared partners Mr. Radhe Shyam Sharda and Mr. Mahesh Jaju. This private limited company exists in Duhabi occupying two bighas of land. The initial capital with fixed assets and operational costs are Rs. 8 crores and Rs. 5 crores respectively. Taking into consideration of popularity of instant noodles in Nepal this particular industry has lunched a fully automatic production system.

In Nepal, noodle has a prominent market place. It is the food liked by all range people so Asian Thai Food has satisfied the people choice by introducing several brands in different flavours such as vegetarian and non-vegetarian etc. The different brands of Asian Thai Foods are Rumpum, Phuchche, Pikvik, 2PM etc. The noodles can be found in two flabours that is vegetarian and non-vegetarian.

It has two machines; one is old and another new. One having capacity of producing 1800 MT and 6075 MT of 50 gm and 75 gm weight chicken and vegetable instant noodles per year, This factory is situated at Biratnagar-2, Sonapur in Morang district. These major products of the industry are noodles and crazy chees balls. Noodles include Rumpum, 2PM, Phuchche of each 75 gm and 50 gm. Current total volume of production per month is 26 MT which is as follow:

• Rumpum (non-veg. 75gm)	281.90 MT/day
• Rum Pum (veg. 75gm)	9.01 MT/day
• 2PM (non-veg. 75gm)	120.91 MT/day
• Phuchche (non-veg. 50gm)	15.36 MT/day
• Krazy Cheese Balls	0.67 MT/day

1.3 Focus of the Study:

Industrialization is an integral part of a national plan to accelerate the rate of economic development in Nepal. It is imperative, therefore to create situation in which industrial investment is encouraged and the private sectors can be presented to play an important role. A nation can undertake development works through a sound economic development which is possible with the establishment of different industries i.e. banking, manufacturing, trading etc. When such industries re established, they can provide various services and products at fair price and create more employment problems as will as better use of available resources and can earn foreign currency.

Working capital management is a part of decision making process of firm. It is important as oxygen to survive. Therefore, the business can not run without working capital. Every business firm needs various types of assets to run the business 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. Therefore, management has to manage properly different types of assets specially company should maintain excess working capital which means idle funds which earn no profit for the firm. At sometime, too little

working capital damages the firm's satisfactory level i.e. neither in adequate nor excessive.

The main focus of the study is how ATFPL utilizing fund very well. This study also focuses on the relationship between current assets and current liabilities and relationship of other variables, which effort the working capital management. This study only focuses the working capital management and its significance during past 5 years up to 2065/066.

1.4 Statement of the Problem:

It is obvious that working capital should be neither too little nor too much, it must just be right and balanced. Too little of working capital create the problem of liquidity and hence the firm suffers from technical insolvency. Technical insolvency of the firm damages its long term prospect. Similarly, too much of working capital impairs the profitability of the firm as idle working capital earns nothing but only costs. Therefore the management of the firm must be effective and efficient in managing the firm's working capital.

This study is primarily focused on working capital management of ATFPL or how it is managing its working capital and it's management policy appropriate? Therefore the specific problems that will be analyzed during this study are as follows:

- (i) What is the size of the investment in each type of current assets?
- (ii) Is there appropriate investment in current assets to the total assets of ATFPL?
- (iii) Is there any need to control our investment in current assets?
- (iv) Has there been changed in the variability in investment in the current assets over a period of time?
- (v) What is significance of current assets management?

1.5 Objectives of the Study:

The main objectives of this study are to examine the working capital policy of ATFPL. The following are the specific objectives of the study

- (i) To study the working capital practice of ATFPL.
- (ii) To study the impact of working capital on profitability.
- (iii) To analyze the current assets and current liabilities of ATFPL.
- (iv) To suggest and recommend for the improvement of working capital management of ATFPL.
- (v) To complete the partial fulfillment of the requirement for the degree of master of business studies (MBS).

1.6 Significance of the Study:

Financial performance of any industry depends on how it planned and controlled its resources. In developing countries like Nepal, the discipline of profit planning has not been so much familiar and practiced due to backward position of industrial sector. Many of the Nepalese industries have been suffering from the poor performance.

An organization needs not only fixed capital but also the current assets. Working capital is nothing but the capital needed to run day to day operation of the business such as wages, freight, raw materials etc. This study provides information about working capital management of ATFPL.

This study is useful for:

- (i) BOD and decision maker of ATFPL for taking suitable decision about working capital.
- (ii) Further researcher and the business enterprises of same kind as well.
- (iii) Prospective investor.

1.7 Hypothesis of the Study:

In order to evaluate the problem and to meet the objectives of the study, following null hypothesis is formulated:

1. There is no significant difference between current assets and total assets in the regard of average proportion increase.
2. There is no significant difference in average proportion increase of inventory and current assets.

3. The relationship between cash balance and current assets does not differ in the regard of average proportion increase.
4. There is no significant difference between in average proportion increase between receivable and current assets amount i.e. the volume of current assets depends on the share of receivable on it.
5. There is no significant difference between current assets and liabilities in the sense of average proportion increase i.e. current assets are affected by current liabilities.

1.8 Assumption and Limitation of the Study:

Following limitations have come along and the assumptions are made in the study:

- 1) The study has covered only a period of 5 years up to 2066/067.
- 2) The study is limited to working capital management of ATFPL.
- 3) The data available in published account have been assumed current and true.
- 4) Working days of the industry is assumed 360 days per year.
- 5) This study for the partial fulfillment of MBS course. So it may not be useful for other aspects.
- 6) The data of F/Y 2066/67 is non audited official data.

1.9 Organization of the Study:

The study of working capital management of ATFPL has been divided into five major chapters as follows:

Chapter-1: Introduction:-

This chapter describes the general background of the company, focus of the study, statement of the problems, objectives of the study, significance of the study, hypothesis of the study, assumption and limitation of the study.

Chapter-2: Review of Literature:

This chapter contains the theoretical analysis and brief review of related literature available. It also includes a discussion on the conceptual reviews as well as review of major studies in general.

Chapter-3: Research Methodology:

This chapter deals with the research methodology which consists of research design, source of data and information along with different analytical as well as statistical tools and techniques.

Chapter-4: Presentation and Analysis of Data:

This chapter deals with data collection, procedures, presentation and analysis of data by using different financial and statistical tools and techniques.

Chapter-5: Summary, Conclusion and Recommendations:

This chapter mainly includes the summary of this study, major finding, conclusion and recommendations are given on the basis of the study.

The bibliography and appendixes are incorporated at the end of the study.

CHAPTER-II

REVIEW OF LITERATURE

Introduction:

This chapter deals with theoretical frame work of and review the relevant studies. Under the theoretical framework of working capital management, it reviews the meaning and concept, classification of working capital, factors determining working capital, techniques of forecasting the working capital requirement and so on.

2.1 Theoretical Review:

2.1.1 Working Capital Management:

Every manufacturing firm needs various types of assets in order to carry out it's functions without any interruption. They are fixed and current assets. Some fixed assets have physical existence and are required to produce goods and services over a long period. This type of fixed assets is called tangible fixed assets. It includes land, building, plant, machinery, furniture and so on. However, some other fixed assets do not generate goods and services directly. However, it reflects the right of the firm. It is called intangible fixed assets. It represents patents, copyrights, trade marks and goodwill. Both fixed assets are written off over a period. Current assets are those resources of the firm which are either held in the form of cash or expected to convert into cash within an operating cycle of the business. It includes cash, marketable securities, account receivables, stock of raw materials, work-in-process and finished goods. Among these, some assets are required to meet the need of regular production and some for day-to-day expenses and short term obligations. Current liabilities are those claims of outsiders which are expecting to be matured within an accounting year. It includes creditors, bills payable and outstanding.

Working capital management is concerned with the problem that arises in the management of the current assets and current liabilities. It affects the over all functional areas of the firm. Thus, the success or failure of any

manufacturing firms virtually depends upon the efficiency of working capital management. Therefore, it is crucial aspect of any firm.

Working capital management is the important branch of the financial management which gives answer to the questions such as:

- (i) How much should we invest in each category of current assets?
- (ii) How should we finance that investment in current assets i.e. appropriate mix of short and long term sources to finance current assets?

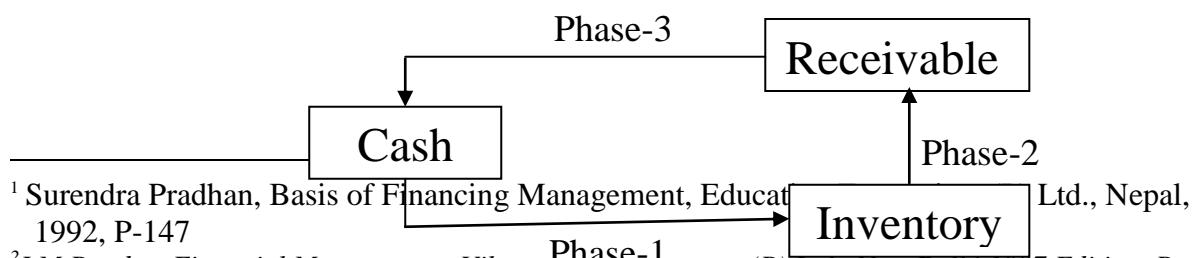
"In short, the working capital is the source of financing current assets and it includes short as well as long term financing."¹

"The use of the term working capital indicates that its flow is circular in nature. Because of the circular flow of current assets, working capital is sometimes called circulating capital."²

"Circulating capital means current assets of a company. That is charged in the ordinary course of business from one form to another, as for example from cash to inventories, inventories to receivables, receivables to cash."³ "The use of this item 'circulating capital' emphasizes on short term cash cycle or operating cycle of the firm. The short term cash cycle refers to the recurring transaction from cash to inventory, inventory to receivable and then to cash again. In other words, the term 'cash cycle' refers to the length of time necessary to complete the following cycle of events:

- ✓ Conversion of cash into inventories,
- ✓ Conversion of inventories into receivables,
- ✓ Conversion of receivables into cash."⁴

The operating cycle, which is a continuous process, is shown in fig. 2.1



¹ Surendra Pradhan, Basis of Financing Management, Education Publishers Pvt. Ltd., Nepal, 1992, P-147

² I.M Pandey, Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi 1987 Edition, P-328
³ Encyclopedia, Banking and Finance, Maann Garia, Banker Publishing House Company, Boston, 8th Edition, 1983, P-147

⁴ M.Y Khan & P.K Jain, Financial Management, Tata McGraw-Hill Publishing Company Ltd., New Delhi, Fifth reprint, 3rd edition, 2001, P-16.1

Fig. 2.1: Operating Cycle

The operating cycle consists of the three phases:

In phase-1, cash gets converted into inventory. This would include purchase of raw materials, conversion of raw materials into work-in-progress, finished goods and terminate in the transfer of goods to stock at the end of the manufacturing process.

In phase II, of the cycle, the inventory is converted into receivables as credit sales are made to customers. Firms which do not sell on credit obviously not have phase II of the operating cycle.

The last phase, phase III represents the stage when receivables are collected. This phase completes the operating cycle. Thus, the firm has moved from cash to inventory to receivables and to cash again.⁵

"The basic goals of working capital management are to manage the current assets and current liabilities of a firm in such a way that a satisfactory level of working capital is maintained i.e. it is neither inadequate nor excessive."⁶

"Working capital management is always interested with problems which arise at the time of management of current assets and current liabilities and their interrelation for conventional accounting purposes current assets may be defined as those assets held for trade or production or which result from the routine operation of the business."⁷

"In examining the management of current assets, answer will be sought to the following questions:

- What is the need to invest funds in current assets?
- How much funds should be invested in each type of current assets?
- What should be the proportion of long-term and short-term funds to finance current assets?

⁵ Ibid. P-16.2

⁶ R.K Sharma & S.K Gupta, Management Accounting Principles and Practice, Kalyani Publishers, New Delhi, 1996, P-21.10.

⁷ C.S Page and E.E Canaway, Finance for Management, William Heinemann Ltd, London, 1969, P-118.

- What appropriate sources of funds should be used to finance current assets?"⁸

Working capital is the life blood and controlling nerve centre for any types of business organization because without proper control upon it, no business organization can run smoothly. As the management of current assets and current liabilities is necessary for day-to-day operation of any organization, it plays a crucial role in the success and failure of any organization as it deals with that part of assets which are transformed from one form to another form during the course of manufacturing cycle. Therefore, the role of working capital management is significant for every business organization irrespective to their nature. There have been done a number of studies on working capital management from different experts in various enterprises.

2.1.2 Concept of Working Capital:

The assets such as cash, marketable securities, accounts receivables and inventories which are known as current assets are required to be minted at a certain level depending upon the volume of production and sales. The cash and marketable securities are respectively considered as purely liquid and near liquid assets where as the accounts receivable and inventories are not. However, they can be liquidated as and when necessary with a period of less than one year. The capital invested on these assets is known as working capital. In short, the working capital is the source of financing current assets and it includes short as well as long term financing. "Working capital refers to a firm invested in short term securities, account receivables and inventories."⁹

There are two major concepts of working capital i.e. net working capital and gross working capital, when accounts use the term of working capital, they are generally referred to net working capital. When is the dollar difference between current assets and current liabilities? This is one measure of the extent to which is the firm protected from liquidity problems. From the management viewpoint, it however makes little sense to take about trying to take about trying

⁸ I.M Pandey, Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi, 1985, P-325.

⁹ Hampton Johan J; as quoted by dongle R.M Parajuli K.P, Account of Financial Analysis and Planning.

to actively manage a net difference between current assets and current liabilities, partially when that difference is continuously changing.

Financial analysis on the other hand, means current assets when they speak working capital. Therefore their focus is on gross working capital since it makes sense for the financial manager to be involved with providing the current of current assets for the firm at all time. In fact, there are two concepts of working capital. They are:

- (i) Gross Concept
- (ii) Net Concept

2.1.2.1 Gross Concept of Working Capital:

The gross concept of working capital refers to total current assets. Current assets are those assets which in ordinary course of business can be converted into cash within short period of morally one accounting year and includes cash, short term securities, debtors, bills receivables and stock.

"The gross concept of working capital refers to the amount of funds invested in short term assets that are employed in the enterprise."¹⁰

"If all the expenses needed to run the day to day operation of business such as amount to be invested in the form of cash, finished goods, receivables etc. are put together is called working capital. This working capital and total current assets are synonymous."¹¹

"The term working capital refers to the gross working capital and it represents the amount of funds invested in current assets. Thus, the gross working capital is the capital invested in total current assets of an enterprise."¹²

Finally, we can say that the working capital concept focuses on two aspect of current assets management.

- (i) Optimum investment in current assets,
- (ii) Financing of current assets,

¹⁰ MadhavRaj Koirala, International Fianacial Analysis, Poiter Publishers Jaipur (India), 1995, P-16.

¹¹ R.S Pradhan & K.D Koirala, Some Reflection on Working Capital Management in Nepalese Corporation Management Dynamics, Vol 3, P-1.

¹²R.K Sharma & S.K Gupta, Op.cit, P-21.22

2.1.2.2 Net Concept of Working Capital:

Net working capital is commonly defined as the difference between current assets and current liabilities. The some definitions of working capital are as follows:

"Net working capital is commonly defined as the difference between current assets and current liabilities or in the other words; net working capital is current assets minus current liabilities."¹³

"The term 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 and (ii) Alternative definition of net working capital is that portion of firm's current assets which is financed with long term funds."¹⁴

The net working capital being the difference between current assets and current liabilities indicates the liquidity position and suggest the extent to which, working capital needs many be financed by the permanent sources of funds. Net working capital can be positive or negative. A positive net working capital will arise when current assets exceeds current liabilities. A negative net working capital occurs when current liabilities. A negative net working capital occurs when current liabilities are in excess of current assets. Mathematically, it is presented as:

$$\text{Net working capital} = \text{Current assets} - \text{Current liabilities}$$

Where,

$$\text{Current assets} = \text{Cash} + \text{marketable securities} + \text{receivables} + \text{inventories}$$

$$\text{Current liabilities} = \text{Short term banks} + \text{creditors} + \text{payables} + \text{outstanding expenses}$$

The two concept of working capital gross and net are not exclusive rather they have equal significance from the management viewpoint. There is no precise way to determine the exact amount of gross or net working capital for any firm. The data and problems of each company should be analyzed to determine the amount of working capital.

¹³James C. Van Horne & Wachnowica, 1997:204

¹⁴L.J Gitman, Principle of Management Finance, Harper and Raw publisher, New York, 1982, P-150

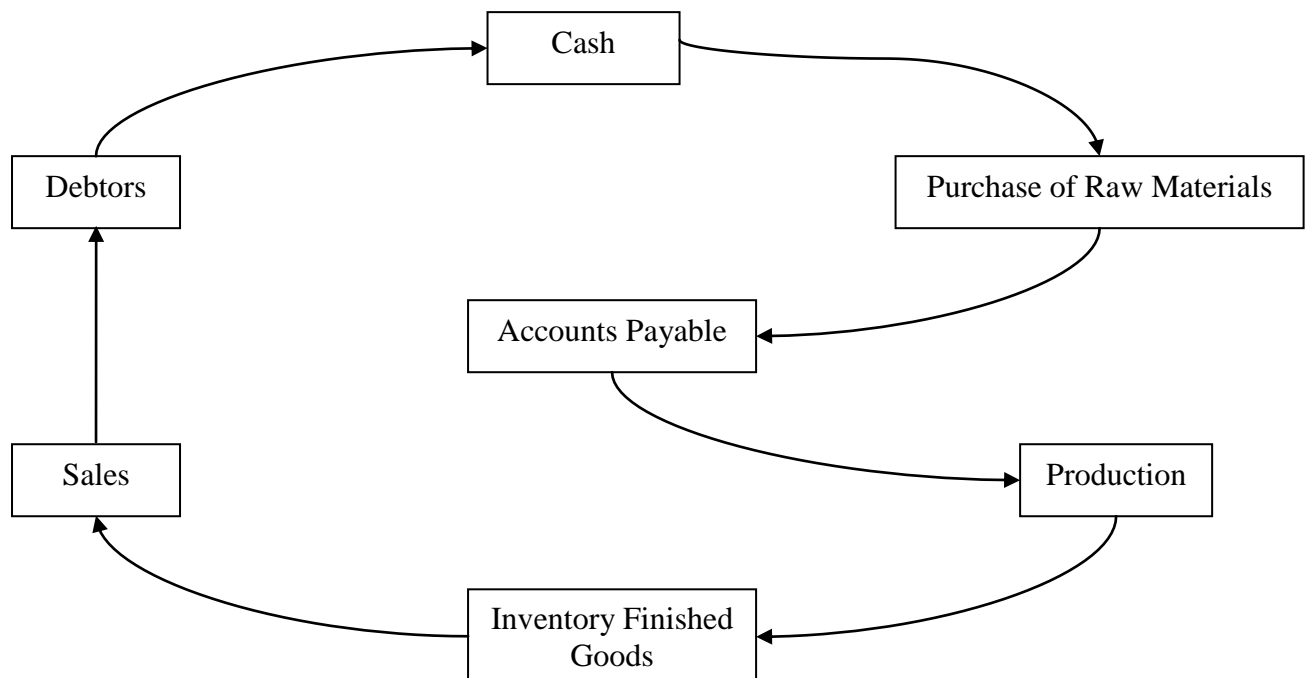
2.1.3 Nature of Working Capital:

Working capital is the main body and nerve center of business. The circular of blood is essential in the human body for maintaining life. Similarly, working capital is also very essential to maintain the smooth operation of the business. Working capital effects on the profitability and contributions of its existence on the business is one of the great important as it deserves adequate planning of working capital requirement. Working capital deals with the nature of current assets and current liabilities.

Working capital has a volatile nature. This nature presents some problems and constraints in financing working capital need. The volatile nature of working capital refers to the change in total current assets. Working capital requires both medium term planning and immediate reactions to changes in forecast and conditions:

We can show working capital in cycle and it shows interrelation among the current assets and other components:

Working Capital Cycle:



In order to reduce the requirement of working capital, the management should try to reduce the period of the operating cycle.

2.1.4 Principles of Working Capital:

The following are the general principles of sound working capital management.

- (a) Principle of risk variation,
- (b) Principle of cost of capital,
- (c) Principle of maturity of payments,
- (d) Principle of equity position,

The first principle refers to the risk associated with the amount of working capital employed. The second principle is concerned with the problems of determining the ideal levels of working capital. The third principle is concerned with the risk directly related to the type of capital used for financing working capital requirement and debt equity ratio and the fourth principle is concerned with maturity dates relatively more important for risk of insolvency.

2.1.5 Needs and Objectives of Working Capital:

Each and every firm needs sufficient volume of working capital in order to run the business smoothly. We will hardly find a business firm which does not require any amount of working capital. Indeed firms differ in their requirement of the working capital.

Business organization has an aim to maximize the shareholders investment. In order to accomplish this objective, the business organization should earn sufficient return for its operations. Earning a steady amount of profit requires sufficient sales activity "sales do not convert into cash instantly; there is invariably a time-lag between the sales of goods and receipt of cash. Therefore, there is a need for working capital in the form of current assets to deal with the problem arising out of the lack of immediate realization of cash against goods sold."¹⁵ Thus, sufficient working capital is necessary to sustain sales actively. It is also necessary to solve the problems or to pay for liabilities like creditors, short-term loan etc.

¹⁵ M.Y Khan & P.K Jain, op.cit; P-16.1

The need for working capital arises due to the time gap between production and realization of cash from credit sales refers to operating cycle. The operating cycle is a continuous process and therefore the need for current assets (gross working capital) is felt constantly.

The basic needs and objectives of working capital can be listed as follows:

- 1) For the purpose of raw materials, components and spares,]
- 2) To pay wages and salaries,
- 3) To maintain day-to-day expenses and overhead cost such as fuel, power and office expenses,
- 4) To meet the selling expenses as packing, advertising etc.
- 5) To provide credit facilities to the customers,
- 6) To maintain the inventory of raw materials, work-in-progress, stores, spares and finished stock etc.
- 7) To pay the short-term debt and bank loan in time,
- 8) To keep the business in solvency position,
- 9) To face for the economic depression and emergencies,
- 10) To grab the opportunity,
- 11) To get regular return and to make the shareholder intension well towards the organization.

2.1.6 Types of Working Capital:

Working capital can be classified into two parts; permanent working capital and variable working capital. These two types of working capital are necessary for continuous production and sales without any interruptions. The working capital can be classified into two types. They are:

- (i) Permanent or fixed working capital
- (ii) Temporary or variable working capital

2.1.6.1 Permanent or Fixed Working Capital:

These assets are required on continuing basis over the entire year. They represent the amount of cash, receivable and inventory mentioned as a

minimum to carry on operation at any time. Permanent working capital is the minimum level of current assets.

There is always minimum level of working capital which continuously required by a firm in order to maintain its activities. Every firm has to maintain a minimum level of inventories, cash and other current assets which is needed to conduct a business even during the dullest season of the year. This minimum level of working capital is called permanent capital. It is permanent in the same way as the firm's fixed assets. Depending upon the changes in 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 sale and investment in debtors may also increase during such periods.

"Permanent working capital also known as lard core working capital. Hard core working capital is the minimum working capital through out the year to support the normal operation of the business."¹⁶

2.1.6.2 Variable or Temporary or Fluctuation Working Capital:

Variable working capital represents additional assets required at certain times during the year. Added inventory must be maintained to support peak selling periods, receivables will increase and must be financed after period of high sales. Extra cash may be needed to pay for increased supplies preceding high activity.

Any amount of working capital over and above the permanent level of working capital is temporary or variable working capital. It is required for short and can't be permanently employed gainfully in the business.

Working capital is required in order to meet the requirements arising out of fluctuation in sales and this additional amount is known as temporary or variable working capital. The amount of working capital arises at the time of busy or brisk season and goes down at the slack season. It also called seasonal working capital.

¹⁶ Van Horn & Wachiwiz, 1997:204

Temporary and permanent working capital can be presented graphically as:

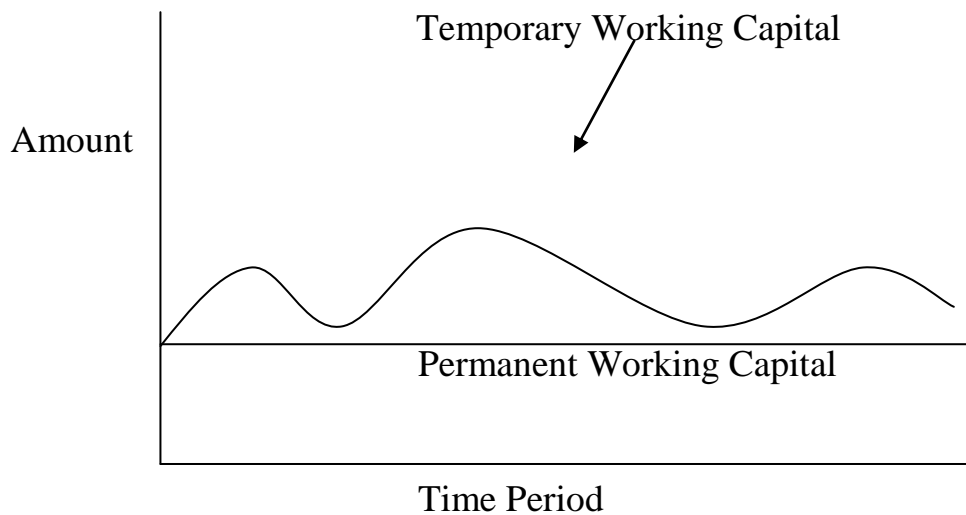


Fig.2.2: Permanent and Temporary Working Capital

In this figure, permanent working capital is stable whereas temporary working capital is sometime increasing and sometime decreasing.

When firm's requirement for permanent capital is increasing then the permanent capital will also increase and when the firm's requirement decreases, permanent working capital will also decrease.

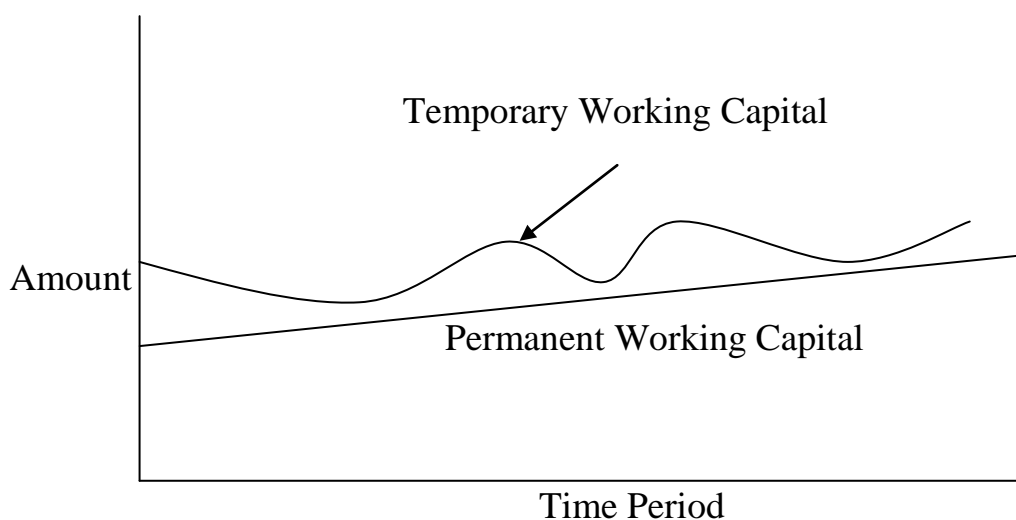


Fig.2.3: Permanent and Temporary Working Capital

In this figure, permanent working capital line is in increasing trend and temporary working capital is sometime increasing and sometime decreasing. This difference in increasing permanent and temporary working capital is seen in grouping firms.

2.1.7 Determinants of Working Capital:

Working capital is a wide concept to management. It is a part of management accounting. Working capital plays an important role in a business. To maintain a particular level of operation, the working capital must be analyzed sufficiently. But it is not easy task to determining or estimate the required amount of working capital. Both over and under working capital are dangerous for the business concern.

They are no set rules or formulate to determine the working requirements of firms. A large no. of factors each has a difference importance and influence working capital needs of firms. An analysis of relevant factors should be made in order to determine total investment in working capital. However, these are the factors which generally influence the working capital requirements of the firm:

- a. Nature of business
- b. Size of Business
- c. Manufacturing cycle
- d. Credit policy
- e. Availability of credit from suppliers
- f. Operating efficiency
- g. Price level change
- h. Technology development
- i. Profit level
- j. Level of task
- k. Business cycle
- l. Growth and expansion activities
- m. Earning capacity
- n. Working capital cycle
- o. Transportation and communication facilities

p. market and demand condition

Each and every firm's manager should pay particular attention to determining factor of working capital optimum of w/c is also determined by the management attitude towards risk.

2.1.8 Working Capital Policy:

Working capital policy refers to the firm's basic policies regarding (i) target levels for each category of current assets and (ii) how current assets will be financed.¹⁷ So first of all, in working capital management, firm has to determine how much funds should be invested in working capital in gross concept. Every firm can adopt different financing policy according to the financial manager's attitude towards the risk-return trade off. One of the most important decisions of finance manager is how much current liabilities should be used to finance current assets. Every firm has to find out the different sources of funds for working capital.

2.1.8.1 Current Assets Investment Policy:

Current assets investment policy refers to the policy regarding the total amount of current assets to be carried to support the given level of sales. There are three alternative current assets investment policies, fat cat, lean and mean and moderate.¹⁸

(i) Fat cat policy:

This is known as relaxed current assets investment policy. In this policy, the firm holds relatively large amount of cash, marketable securities, inventory and receivables to support a given level of sales. This policy creates longer inventory and cash conversion cycles. It also creates the longer receivable collection period due to the liberal credit policy. Thus, this policy provides the lowest expected return on investment with lowest risk.

¹⁷ J.Fred Weston, Scott Besely and E.F Brigham, Essentials of Managerial Finance, The Dryden Press, Chicago, 1996, P-133

¹⁸ Ibid, P-344.

(ii) Lean and Mean Policy:

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

(iii) Moderate Policy:

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

2.1.8.2 Current Assets Financing Policy:

It is the manner in which the permanent and temporary current assets are financed. Current assets are financed with the funds raised different sources. But cost and risk affect the financing of any assets. Thus, current assets financing policy should clearly outline the sources of financing. There are three variants aggressive, conservative and matching policies/approaches of current assets financing.

(i) Aggressive Policy:

In an aggressive policy, the firm finances a part of its permanent current assets with short-term financing and rest with long-term financing. In other words, the firm finances not only temporary current assets but also a part of the permanent assets with short-term financing.

In general, interest rate increases with time i.e. shorter the times lower the interest rate. It is because lenders are risk adverse and risk generally increases with the length of lending period. Thus, under normal condition, the firm borrows on a short term financing rather than long term financing. On the other hand, if the firm finances its permanent current assets by short-term financing, it runs the risk of renewing the borrowing again and again. This continued financing exposes the firm to certain risk. It is because, in future interest

expenses will fluctuate widely and it may be difficult for the firm to raise funds during stringent credit periods. In conclusion, there is higher risk, higher return and how liquidity position under this policy. As there are more risky in short term financing long term financing, it is illustrated below:

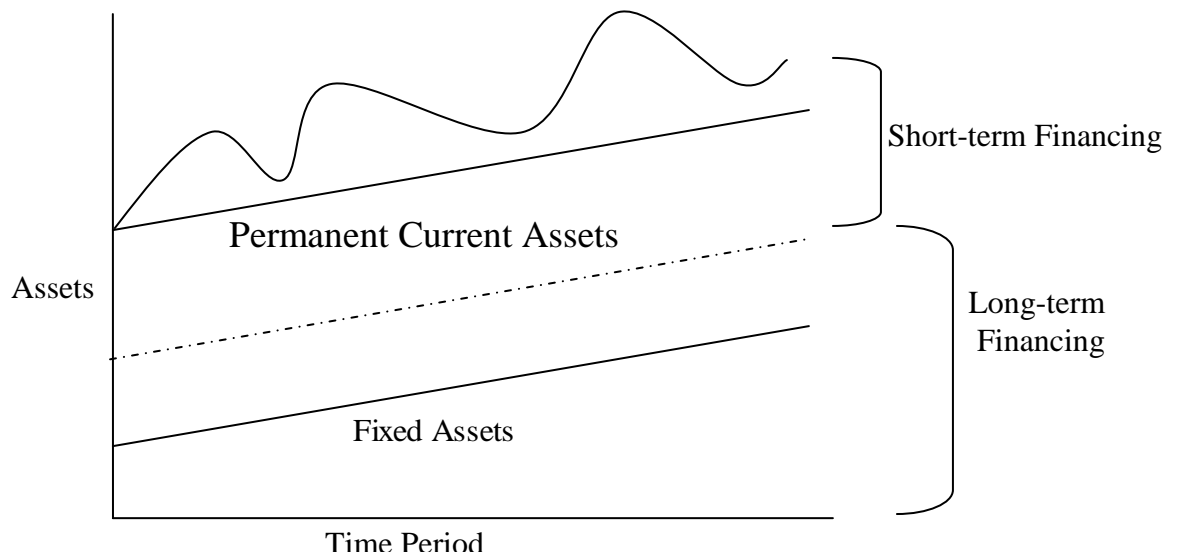


Fig.2.4: Aggressive Financing

(ii) Conservative Policy:

In conservative policy, the firm uses long-term financing to finance not only permanent current assets but also part of the temporary current assets. It means that firm depends more on the long-term sources for financing needs.¹⁹ This policy leads to high level of current liabilities and higher interest cost. The risk and return are lower than of aggressive one. The risk adverse management follows this policy. When firm has no temporary current assets, then the surplus long-term funds are invested in marketable securities.

¹⁹ I.M Pandey, op.cit, P-829.

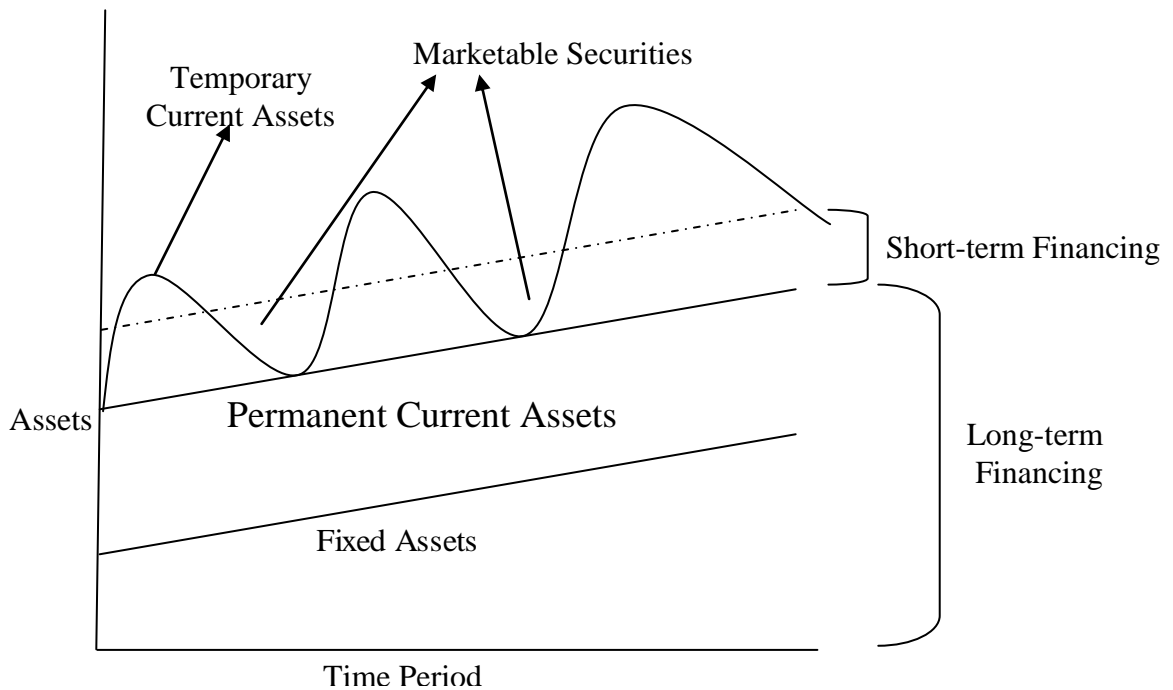


Fig.2.5: Conservative Financing

(iii) Moderate /Matching Policy:

In this policy, the firms finances the permanent current assets with a long-term financing and temporary with short -term financing. It lies in between the aggressive and current liabilities. Temporary working capital is financed by short-term financing and permanent by long-term financing. Thus, no working capital is financed by long-term funds. Hence, net working capital is zero under policy. But this situation may not be realized due to the uncertainty about the expected lives of assets. So, this policy is not practical.

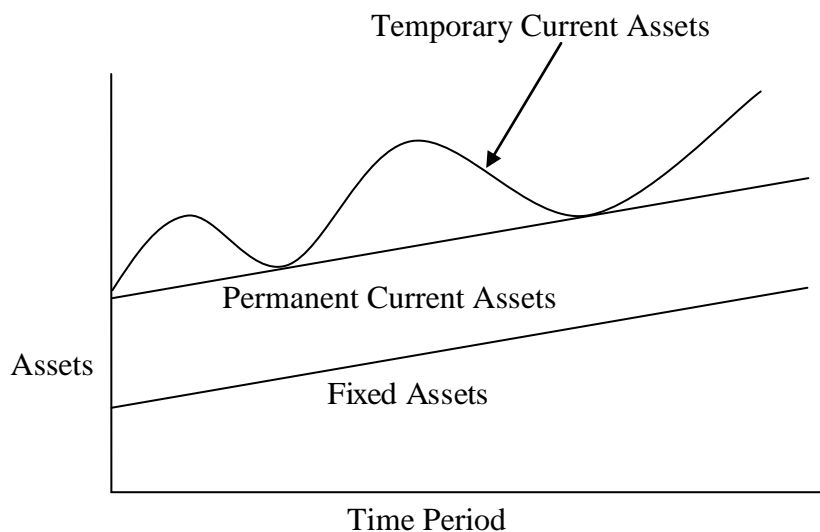


Fig.2.6: Moderate Financing

2.2 Review of literature:

2.2.1 Related Study:

Working capital is controlling nerve center of business because without the proper control upon it no business organization can run smoothly. As the management of current assets and current liabilities of the business organization is necessary for day to day operations. It plays the key role in the success and failure of the organization not only in the short run but in the long run also. The regarding standing this chapter here in this study is to review the available literature on working capital management.

2.2.2 Review of Books:

For the purpose of study made easy, related review from some books on working capital management are studied. In the concern of working capital, the well known professor James C. Van Horn has given the concept of working capital as; "Working capital management is usually described as involving the administration of these assets namely cash, marketable securities, receivables and inventories and the administration of current liabilities. It means the working capital management is concerned with problem that arises in attempting to manage the current asset, the current liabilities and the interrelation that exists between them."²⁰

"The term working capital originated at a time when most industries were closely related to agriculture, processor would buy crops in the fall process them, sell the finished product and end up just before the next harvest with relatively low inventories. Bank loan with maximum maturities of one year were used to finance both the purchase and the processing costs and these loans were retired with the process form the sale of the finished products."²¹

"Proper management of working capital must ensure, adequate amount of working capital as per need of business firms. It should be in good health and efficiency circulated. To have adequate, healthy and efficient circulation of working capital it is necessary that working capital be properly determined and

²⁰ J.C Van Horn, Financial Management and Policy, New Delhi, Prentice Hall of india (P) Ltd.,P-373

²¹ J.Fred Weston & F. Eugene Brigham, Management Finance, The Dryden Publisher Illinois, P-267.

allocated to its various segments, efficiency controlled and regularly reviewed."²²

2.2.3 Review of Journals/Articles:

Articles, journals and bulletins are of great significance for thesis writing. So, this part mainly focuses on the review of articles/journals published by different management experts in the field of working capital management.

Prof. Dr. Manohar Krishna Shrestha in his study "Working capital management in public enterprises" states that manager often lacks basic knowledge of working capital and its overall impact on the operative efficiency and financial viability of public enterprises which are Birganj Sugar Factory, Janakpur Cigarette Factory, Raghupati Jute Mills, Dairy Development Corporation, National Trading Ltd, Royal Drugs Ltd., National Construction Company of Nepal, Harisiddhi Brick & Tile Factory, Nepal Dairy Ghee Industry Ltd. and Chandeswori Textile Factory Ltd. The study has pointed at certain policy flaws, such as deficient financial planning, negligence of working capital management, deviation between liquidity and turnover etc. The problem can be shorted out through identification of needed fund, development of management information system, determination of sound combination of short-term and long-term source to finance working capital requirement.

In this analysis, he found that four enterprises had maintained adequate liquidity position, two had excessive and remaining four had failed to maintain desirable liquidity position. On the turnover side, two enterprises had negative working capital and the remaining three had not satisfactory turnover on net working capital. He had also found that out of ten public enterprises, six enterprises were operating at losses while only four were getting some percentage of profits. With reference to those findings, he had brought certain policy issues such as lack of suitable financing planning, negligence of working capital management, deviation between liquidity and turnover of assets and inability to show positive relationship between turnover and return on net working capital. At least, he had made some suggestive measures to overcome from the above policy issues, viz. identification of needed funds, regular check of accounts, development of management information system, positive attitude

²² N.K Arawal, Management of Working Capital, Sterling Publishers (P) Ltd., New Delhi, P-8.

towards risk and profit and determination of right combination of short-term and long-term sources of funds to finance working capital needs.²³

Professor Dr. Khagendra Acharya has published another article relating working capital management. He has described the two major problems, operational problems and organizational problems regarding the working capital management in Nepalese public enterprises. The operational problems, he found, are increase of current liabilities than current assets, not allowing the current ratio of 2:1 and slow turnover of inventory. Similarly, change in working capital in relation to fixed capital had very low impacts over the profitability, thin transmutation of capital employed to sales, absent of apathetic management information system, break-even analysis, funds flow analysis and ratio analysis were either not done or ineffective for performance evaluation. Finally, monitoring of the proper functioning of working capital management has never been considered managerial job.

In the second part, he has listed the organizational problems in the public enterprises. In most of the public enterprises there is lack of regular internal and external audit system as well as evaluation of financial results. Similarly, very few enterprises have been able to present their capital requirement, functioning of finance department is not satisfactory and some enterprises are even facing the under utilization of capacity.²⁴

Pradhan and Koirala had jointly conducted a study on "Working Capital Management of Nepalese Corporations". They had focused on evaluation of working capital of selected manufacturing and non-manufacturing public enterprises. This study was concentrated in the size of investment in current assets, significance of current assets management. The major findings of the study were as follows:

1. Investment on total assets had declined over a period of time in both the manufacturing corporation. However the manufacturing corporations

²³ M.K Shrestha, Problems and Implementation in Management of Working Capital in Nepalese Enterprises, A Quarterly ISDOC Bulletin, Vol-8, 1983.

²⁴ K. Acharya, Problems and Implements in Management of Working Capital in Nepalese Enterprises; A Quarterly ISDOC Bulletin, Vol-10.

consistently had more investment in cash and receivables as compared to non-manufacturing corporations.

2. Inventory management was great significance in manufacturing corporations and the management of cash and receivables was of great significance in non-manufacturing corporations.
3. Management of working capital was more difficult than that of fixed capital.
4. The major motive for holding cash in Nepalese corporation was to provide as reserve for routine net out flows of cash to keep on the production process.²⁵

2.2.4 Review of Related of Research Work:

This is an important section for the researcher. This section has been made to review the literature on working capital management. In this section, review of related studies has been made by students of an MBA, MBS and Ph.D. related to working capital management in different sector in Nepal's context.

Prof. Dr. Khagendra Acharya had studied the working capital management of Nepal Tea Development Corporation (NTDC) for five years. Prof. Dr. Acharya found the following points in his research work which are as follows:

- 1) Inventory constitutes the most important and largest element of working capital in NTDC. The overall adequacy of inventory in NTDC discloses that the growth of working capital and inventory in corporation is negatively correlated.
- 2) Receivables are growing rapidly than the corresponding growth on sales volume.
- 3) The break-even analysis of NTDC reveals the due to insufficient working capital, the corporation has been selling its product at a far below rate than its break-even.

²⁵ R.S Pradhan and K.D Koirala, Aspects of Working Capital Management in Nepalese Corporation, Management Journal, Institute of Management.

4) Monitoring the proper functioning of working capital management has never been included in the managerial job in all the selected public enterprises with no exception to NTDC during the study period.

5) NTDC is expected to improve its prevalent system of inventory management regarding the planning and purchasing of spare parts manures, insecticide fuels etc.

6) There should be a close relation between production units of different states and the central materials management departments.

7) The credit policy which is not clear in itself has not been followed by the corporation which collecting the over due accounts.²⁶

Mr. Lilanath Niroula made a study on "Working Capital Management" of Dabur Nepal Pvt. Ltd. (DNPL). He has analyzed the financial statement of the factory for five years (2002/03 to 2006/07). The main objectives of the study were to study practice of working capital, impact of working capital, size of working capital by applying necessary financial and statistical tools and techniques. Some of his recommendations are:

1) The turnover position of DNPL is very low with high conversion period. Thus, the management is advised to reduce its conversion period and increase the turnover ratio. For this, the management should improve the marketing policy and also should set certain target for credit policy and avoid unnecessary increase in the volume of sundry debtors. For inventory turnover, management should reduce the huge amount of inventory or the optimum level should be adjusted according to the sales and production. An effective inventory turnover should be introduced in order to control inventory in accordance with their value and importance and thus maintain good inventory position.

2) DNPL has very high liquidity position the high liquidity makes the current liabilities fully secured with current assets and the company is in a position to pay its obligation as and when they will mature but the unnecessary

²⁶ Khagendra Acharya, Working Capital Management of Manufacturing Public Enterprises in Nepal with special reference to NTDC, unpublished Ph. D. Thesis submitted to Allahbad University, India 1986, as quoted by Lilanath Niroula in "Study on Working Capital Management of Dabur Nepal Pvt. Ltd." P-27.

capital is tied-up in maintaining the high liquidity which can be used in other sectors. Therefore the management is advised to reduce the liquidity ratio to the standard of 2:1.

3) The profitability position of DNPL is decreasing every year which is not a good sign. The decline in profit is due to the conservative working capital policy adopted by the management. Thus, the management is advised to revise their working capital policy because the more conservative policy they follow the less profit will be in future.

4) The current assets and current liabilities of DNPL are in good position and the CR & QR show that there are more current assets than current liabilities. But in the F/Y 2006/07, CR & QR ratio have been the lowest during the study period which shows that the percentage of current liabilities has increased more than percentage of current assets from previous year which is a alarming sign but not a serious one. Thus, company should reduce the amount of current liabilities in the near future.²⁷

Kamal Prasad Dhakal, a researcher working entitled "working capital management of Popular Plastic Pvt. Ltd., Sunsari." , had derived following major findings from his study. These are:

- ❖ Total current assets and total current liabilities of PPP Ltd. are highly positively correlated.
- ❖ Current assets show increasing trend in third and fifth year and in second and fourth year decreasing trend.
- ❖ The return on total assets net worth and working capital of PPP Ltd. is found to be satisfactory.
- ❖ There is positive correlation in between receivables of current assets and total assets etc.²⁸

²⁷ Lilanath Niroula, Working Capital Management of Dabur Nepal Pvt. Ltd., an unpublished dissertation, MBS, TU.

²⁸ Nirmala Khadka, Working Capital Management of Himalayan Bank Ltd. and Nabil Bank Ltd., and unpublished dissertation, MBS, TU.

CHAPTER-III

RESEARCH METHODOLOGY

In the previous years, we have briefly discussed on working capital concept, policies including individual working capital variables. The basic purpose of this chapter is to highlights the research designing nature and sources of data, data collection procedures, statistical and analytical tools used and method of analysis of data in brief.

3.1 Introduction:

Research methodology is a way to solve the research problem systematically. This chapter refers to the overall approaches to the research process, covering from theoretical understanding to the collection and analysis of data. It is composed of both parts of technical aspect and logical aspect. Specially, this chapter has focused on research design, procedure employed, nature and source of data, sample and population. Financial and statistical tools used are defined key terms.

Research methodology means the methods, process, tool and techniques which are used in any of the research or investigations till the purpose is accomplished and the aim is achieved. Thus, methodology is a description of the procedures of inquiry in particular field.

3.2 Research Design:

A research design is a plan for the collection and analysis of data. Research design consists of important procedure and techniques for guiding analysis and evaluating the study. Secondary data have been used in order to achieve the predetermined objectives of this research. The research design of this study is description and analysis in nature. This study is quantitative since the quantitative data have extensively been employed. Positions of working capital, liquidity, cash conversion cycle, relation of working capital to other variables are the main issues to be dealt. To facilitate research, the researcher

collects the data of concerned manufacturing companies and they are tabulated and analyzed by using different financial and statistical tools to find out real condition of working capital.

3.3 Nature and Source of Data:

The data upon which this study is made are basically secondary in nature. The secondary data have been collected from financial statement, annual report, unpublished official records of concerned company and audited financial statement of the company going in its office. All the collected data and information have been properly arranged, synthesized, tabulated and calculated to arrive at the realistic analytical steps.

For the study purpose, 5 years audited balance sheets, profit and loss accounts and other related documents which are secondary nature collected from the company.

3.4 Population and Sample:

Population:

The term population for research means all the members of any well defined class of people, event or objective or it means not only the people but the aggregate form of the people events or objects. A population is defined by listing all the members. Population is also known as universe. In other words, population refers to the totality of the observation which is selected for study.

Sample:

The collecting information from each member a sub-group is chosen which is developed to be representatives of the population, this group is called sample. Sample denotes the individual one. Sample refers to the chosen part of population, e.g sample refers to a part of chosen from the sack before purchasing anything. They decide from the handful of rice (sample) that the sack (population) will contain. Good sampling techniques can save the researcher time and money.

In this study, all the manufacturing & trading organizations, acting at private sectors are population. And out of them, only Asian Thai Foods Pvt. Ltd. is taken as a sample.

3.5 Data collection and Processing Procedure:

Financial data required to achieve the set objectives of this study have been directly extracted from the balance sheet and income statement of the company. In order to collect the supportive data, a detail review of the related documents has been carried out.

In this study, the audited data in the annual reports of ATFPL have been used and processed for the required data. For this purpose, the collected data were processed and tabulated as per the requirement of the study. In order to facilitate the analysis and interpretation of the data, some statistical measures and financial ratios have also been used.

3.6 Data Analysis Method:

For the purpose of analysis of working capital management of ATFPL, there are various analytical and statistical tools have been used. These tools are discussed as follows:

3.6.1 Analytical Tools:

Ratio analysis is an essential tool of financial analysis, which helps in identifying financial strengths and weakness of any manufacturing concern. The ratio is calculated by dividing one component to another to show their corresponding relationship with each other. The ratio analysis is a powerful tool of a financial analyst. Some necessary ratios are presented below:

1. Liquidity Ratio:

It measures the liquidity position of the company and firm's ability to satisfy creditors in the immediate future, these ratios compare the assets available for meeting current obligation with the level of those obligations. Lack of sufficient liquidity will result in bad credit image, loss of creditors. A very high degree of liquidity is also not good because idle assets earn nothing rather

they entail opportunity cost. The ratios which indicate the extent of liquidity of lack of it are:

(i) Current Ratio (CR):

This ratio shows the short-term solvency and financial strength of the firm, current ratio is the basic yardstick of measuring the solvency and liquidity position of the firm and it is determined by the following way:

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

The high ratio indicates the liquidity position of company is strong and able to pay current obligation or bills. Generally, the current ratio of 2:1 is considered satisfactory. More ratio indicates the greater amount of working capital and fewer ratio lesser amount of working capital.

(ii) Quick Ratio (QR):

The quick assets do not include the amount invested in the inventories. It is reliable to measure the company's liquidity. It is determined by the following way:

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

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

2. Activity Ratio:

It is also known as turnover ratio. It involves a relationship between sales and the various assets and presumes that there exists an appropriate balance between sales and the various assets. It indicates the speed with assets is being converted into sales. There are several activity ratios. Some ratios which are related to working capital are:

(i) Inventory Turnover Ratio (ITR):

This ratio established the relationship between costs of goods sold and average inventory or sales and closing inventory. The objective of this ratio is to measure the ability of the firm to utilize the inventory. This ratio is expressed as:

$$ITR = \frac{\text{Cost of goods Sold}}{\text{Average inventory}}$$

Where,

Cost of goods is obtained by sales minus gross profit and average inventory is obtained by dividing opening stock plus closing stock by two. When cost of goods sold figure is not available, in that case, alternative formula is to divide sales by closing inventory.

$$ITR = \frac{\text{Sales}}{\text{Closing Inventory}}$$

Generally, high ratio indicates either the same volume of sales has been maintained with lower investment in stock or the volume of sales has increased without any increase in the amount of stocks.

(ii) Debtors/Receivable Turnover Ratio (DTR):

The liquidity position of any firms depends upon the quality of debtors to a great extent. The receivable turnover indicates the collection efficiency of the firm. The higher ratio indicates the efficient management of credit & vice-versa. It is given by:

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

(iii) Cash Turnover Ratio (CTR):

Every business concern has to maintain an adequate amount of cash. It is a part of working capital management. This ratio is calculated as:

$$CTR = \frac{\text{Sales}}{\text{Cash}}$$

This ratio measures the speed with which cash moves through enterprises operations. If the ratio is high, indicates lower working capital and lower this ratio indicates higher working capital.

(iv) Current Assets Turnover Ratio (CATR):

It is also called trading ratio. This ratio shows the efficiency of utilizing current assets. It is a relationship between sales and current assets. It is calculated as:

$$CATR = \frac{Sales}{Current\ Assets}$$

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

(v) Total Assets Turnover Ratio (TATR):

This ratio establishes the relationship between net sales and total assets. The objective of computing this ratio is to determine the efficiency with which the total assets are utilized.

$$TATR = \frac{Sales}{Total\ Assets}$$

It indicates the firm's ability to generate sales per rupee of investment in total assets.

(vi) Net Working Capital Turnover Ratio (NWCTR):

This ratio is directly related to sales. It indicates the efficiency of net working capital is supporting sales. It is calculated as:

$$NWCTR = \frac{Sales}{Net\ Working\ Capital}$$

Net working capital means current assets minus current liabilities. The lower turnover ratio indicates inefficient utilization of working capital and the higher ratio indicates efficient utilization of working capital.

3. Profitability Ratio:

Profit is the difference between total revenues and total expenses and it is the ultimate output of a company. Therefore, the firm should continuously evaluate the efficiency of its company in terms of profit. The profitability ratios are calculated to measure the operating efficiency of the company. Following are profitability ratios related to working capital.

(i) Gross Profit Margin (GPM):

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

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

(ii) Net Profit Margin (NPM):

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

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

(iii) Return on Total Assets (ROA):

This ratio studies the relationship between net profit after tax and total assets. This ratio is computed by dividing net profit after tax by total assets.

$$ROA = \frac{\text{Net profit after tax} \times 100 \%}{\text{Total assets}}$$

Besides all these ratios mentioned above, the composition of working capital has been studied by analyzing the following ratio:

(a) Percentage of Current Assets to Sales (CAS):

Sales are only that activity which generates funds from outside. So it is the most important part of manufacturing industries. The amount invested on current assets is to support the given level of sales. It is calculated as:

$$CAS = \frac{\text{Current assets} \times 100 \%}{\text{Sales}}$$

As the percentage of CAS increases the risk and profitability also increases and vice versa.

(b) Percentage of Current Assets to Fixed Assets (CAFA):

This ratio represents the relationship between the CA and FA which is calculated as:

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

If the CAFA is large, it indicates the sound working capital position.

(c) Cash & Bank Balance to Current Assets (CBCA):

This ratio represents the percentage of cash and bank balance to current assets. It is calculated as:

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

The ratio should not be large because higher ratio indicates the poor cash management. In other words, higher the percentages lower the risk and profitability of the business and vice versa.

(d) Inventory to Current Assets (ICA):

Inventory is the part of w/c. This ratio represents the percentage of CA in the form of inventory. It is calculated as:

$$ICA = \frac{\text{Inventory} \times 100 \%}{\text{Current assets}}$$

The increase in the ratio is an indication of weak current assets management of the firm.

(e) **Miscellaneous Current Assets to Current Assets (MCACA):**

This ratio shows the percentage of current assets in the form of misc. current assets. It is given by:

$$MCACA = \frac{\text{Misc. Current Assets} \times 100 \%}{\text{Current assets}}$$

(f) **Inventory Turnover:**

This ratio is also known as stock turnover ratio which is calculated as:

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

A high inventory ratio indicates the good inventory management.

(g) **Sundry Creditors to Current Liabilities (SCCL):**

This ratio shows the percentage of current liabilities in the form of sundry creditors. It can be calculated as:

$$SCCL = \frac{\text{Sundry Creditors} \times 100 \%}{\text{Current liability}}$$

3.6.2 Statistical Tools:

The various statistical tools and techniques as under have been used for the analysis and interpretation of data. They are as follows:

(i) **Arithmetic Mean (\bar{x})**

The most popular and commonly used measure of central tendency is the arithmetic mean which represents the entire data by a single value. The arithmetic mean of values of a variable is defined as the ratio of the total values to the number of values. It can be calculated as follows:

$$\bar{x} = \frac{\Sigma X}{N}$$

where,

\bar{x} = Arithmetic mean

ΣX = Sum of the values

N = Number of the value/observations

(ii) **Standard Deviation (δ):**

The standard deviation is an important and widely used measure of dispersion. The high amount of dispersion reflects high standard deviation. The small standard deviation means the high degree of homogeneity of the observations. It is calculated for selected dependent and independent variables specified. It is positive square root of the arithmetic mean of the square deviation from arithmetic mean.

$$\delta = \sqrt{\frac{\sum x^2}{N}}$$

where,

δ = standard deviation

$\sum x^2$ = sum of mean deviation squared

N = Total no. of observation

(iii) Coefficient of Variation:

Coefficient of variation is the ratio of the standard deviation to the mean expressed in percentage. It is the best way to compare the variation; more will be the uniformity, consistency etc and vice-versa. The formula of coefficient variation is as follows:

$$CV = \frac{\delta}{\bar{x}}$$

where,

δ = standard deviation

CV = coefficient of variation

\bar{x} = arithmetic mean

(iv) Karl Pearson's Correlation Coefficient (r):

Two variables said to have 'correlation' when they are so related that the change in the value one variable is accompanied by the change in the value of other. It measures the degree of relationship or association between the variables. Symbolically, it is determined by as followings:

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

where,

$$x = X - \bar{X}$$

X = First variable x

\bar{X} = Mean of variable X

$$y = Y - \bar{Y}$$

Y = Second variable y

\bar{Y} = Mean of Variable Y

The value of 'r' always lies between +1 and -1. The value of 'r' never comes more than +1 or less than -1.

v) Probable Error (Pe):

The probable error of the coefficient of correlation is the basis for the interpretation of its value. When $r < 6Pe$ (r is less than 6 times of Pe), the value of 'r' is not significant at all i.e. there is no evidence of correlation. But when $r > 6Pe$, the value of 'r' is significant i.e. practically the correlation is certain. It is calculated as:

$$Pr\ obable\ erro\ r\ (PE) = 0.6745 \times \frac{1 - r^2}{\sqrt{N}}$$

where,

Pe = Probable error

r = Correlation

N = Number of observation

If 'r' is less than that of Pe, it is not at all significant. If 'r' is greater than Pe, there is correlation. If 'r' is more than 6 times of Pe then considered significant.

3.7 Definition of the Operational Terms:

The operational terms used in this study have been defined below to avoid any confusion and misunderstanding.

(b) Working Capital:

The term working capital refers to the gross working capital for this study. It means that the working capital covers total volume of current assets of ATFPL.

(b) Current Assets:

Those assets which are convertible or meant to be converted into cash within a year's time is called current assets. It includes inventory, cash and bank balance, sundry debtors, prepaid expenses, loans and advances.

(c) Inventories:

It includes the stores and spares, raw materials, packing materials, stock in process, finished goods and materials in transit.

(e) Receivable:

It includes receivables from the debtors which are over six months and others.

(f) Fixed Assets:

Fixed assets include such assets like land and building, plant and machinery, furniture and fixture, vehicles and other miscellaneous assets, which are supposed be existed more than an accounting year.

(g) Current Liabilities:

Liabilities are those which fall due for payment in relatively short period normally no more than one year. Current liabilities include sundry creditors, short term loans and provision.

(h) Sundry Creditors:

It includes total amount of purchase and other which are to be paid to the creditors.

CHAPTER – IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction:

The main objective of this chapter is to fulfill the objective of the study by presenting data and analyzing them with the help of various tools followed by methodology. This chapter will present the analysis of components of working capital of DNPL. It will present the composition of current assets and current liabilities, relationship between current assets and fixed assets, turnover position, liquidity position, profitability position and financing policies of ATFPL etc.

4.2 Position of Current Assets:

Any type of business organization requires fixed assets as well as current assets. Each and every business organization has financed their capital in the assets like cash marketable securities, inventories, receivables and so on for day to day operation of business organization. Total current assets which is known as w/c as per in gross concept, most of the organization require some amount of w/c and this requirement differ according to the size of the organization. Therefore C/A are those assets or resources of a firm, which are either held in the form of cash or are converted in cash with in accounting period, usually a year of the business.

A firm needs w/c (gross) because the production, sale and cash flow are not instantaneous. The firm needs cash to purchase raw materials and pay expenses those may not be perfect matching between cash inflow and cash out flow. Cash may also be held to meet the future expenses. The stocks of raw materials are kept in order to ensure smooth production and to protect against the risk of non-availability of raw materials. The firms have to invest enough funds in C/A for the success of the sales activities.

Therefore it can be studied that the efficient management of C/A is an integral part of overall financial management and has to greater impact on maximization of owner's capital. In this context, it is necessary to have proper

analysis for current assets management therefore firstly the overall current assets are analyzed.

The following table shows the current assets components of ATFPL of the study period.

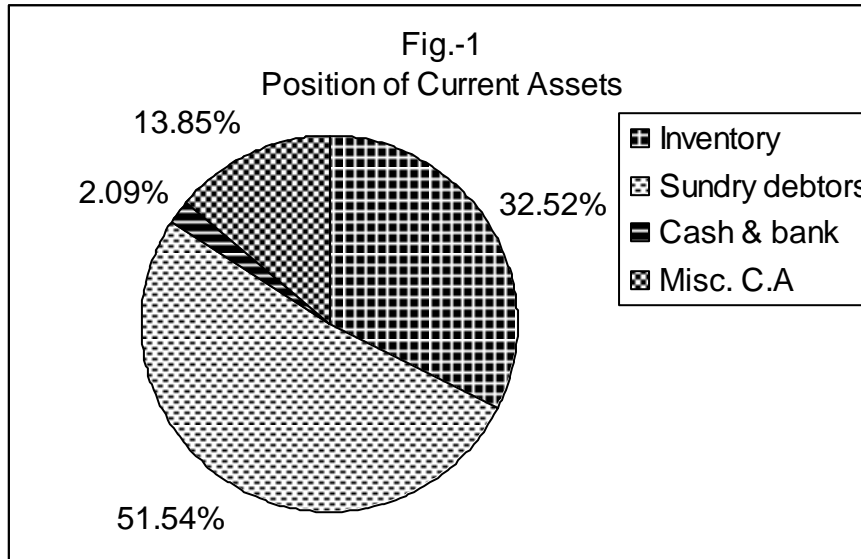
Table – 1
Position of Current Assets

Fiscal Year	Inventory	Sundry debtors	Cash & bank	Misc. C.A	Total C.A
2062/63	48760149.18	127852837.21	10594745.40	20570894.32	207778626.11
2063/64	103942183.44	108695340.11	3522540.96	46651795.61	262811860.12
2064/65	126563390.97	143551821.72	10066145.06	56999179.62	337180537.37
2065/66	118695897.63	218118025.88	5165849.27	51842539.59	392822312.37
2066/67	122629644.32	226788395.99	5061343.66	45598045.02	400077428.99
Average	104118253	165001284	6682125	44332491	320134153
Avg. %	32.52	51.54	2.09	13.85	100

Source: Appendix-1

The above table shows the current assets position of the company. The above table represents investment pattern of the company in the current assets and their fluctuation in year. As per table, investments in inventories and sundry debtors have been found as major in comparison to other current assets. Likewise, share of sundry debtors is always in highest and share of cash & bank is always in lowest position. The amount in all these four topics is in fluctuation trend or it is seemed to be non-consistency.

Being the lowest position of cash & bank in every year clearly shows the higher turnover of stock realization of more cash and sound liquidity of the company. The total asset of Asian Thai Foods Pvt. Ltd. is increasing trend respectively.



According to the above figure, we can know that it is related to average position of current assets of ATFPL during the study period. It clearly shows that the sundry debtors has occupied more than 50% share, it means sundry debtors has recovered major position. But the cash & bank has occupied less share or position comparatively to others.

4.3 Working Capital Policy:

Working capital policy refers to the firm's policies regarding the target level for each category assets and liabilities. Working capital management refers to the administration of all current assets and current liabilities in a proper way.

Every firm wants to maximize the wealth of its shareholders. In order to achieve this target, it has to perform many functions. For this purpose, firm has to determine the suitable current assets investment policy, maintain proper relation of current assets with fixed assets and sales and finance the current assets with short-term as well as long-term sources. Thus, the better performance of current assets is the integral part of working capital management.

4.3.1 Current Assets Investment Policy:

Every firm needs current assets as well as fixed assets to operate its activities effectively. Current assets policy refers to the policy regarding the total amount of current assets required to support the given level of sales. Fir

may follow the different investment policy according to their attitude towards the risk and the nature of the business. The current assets policy of the ATFPL has been analyzed here in the terms of relationship between current assets with fixed assets and current assets with sales.

4.3.1.1 Ratio of Current Assets to Fixed Assets (CAFA):

For the purpose of to success of any manufacturing concerns, firms should invest in current assets as well as fixed assets to support particular level of output. Therefore, the firm should determine the proper portion of current assets with fixed assets. The level of current assets can be measured by relating current assets (CA) to fixed assets (FA). Assuming constant level of fixed assets, a higher CAFA ratio indicates a conservative current assets policy and lower CAFA ratio means an aggressive policy. Conservative policy indicates a greater liquidity and lower risk, while an aggressive policy indicates higher risk and poor liquidity.

The relationship between CA & FA can be shown by the table as below:

Table – 2

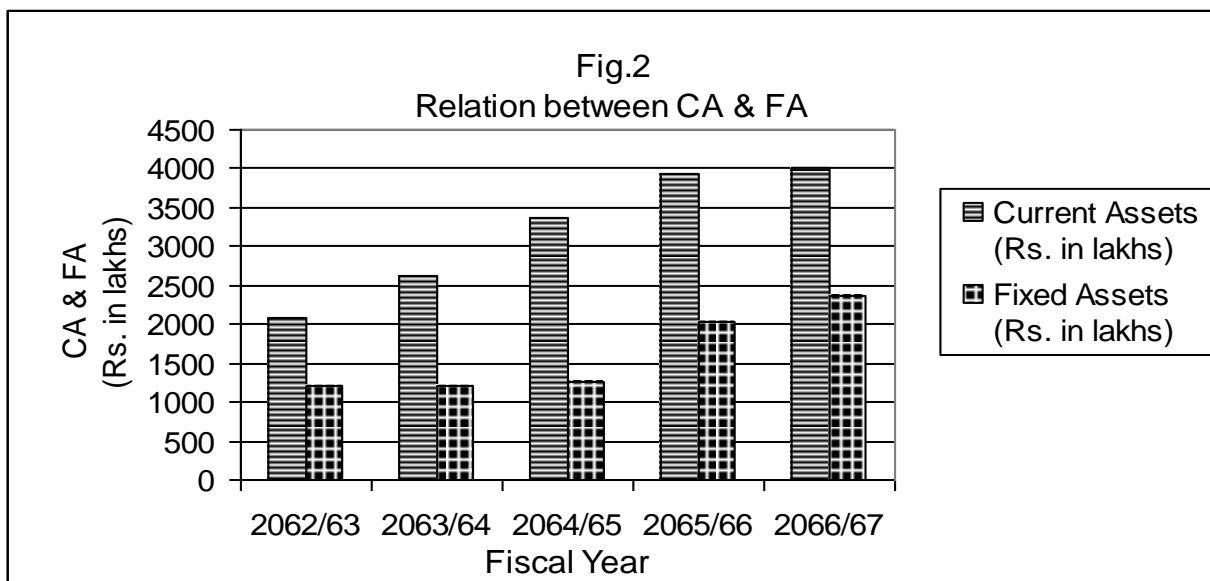
Ratio of Current Assets to Fixed Assets

Fiscal Year	Current Assets (Rs. in lakhs)	Fixed Assets (Rs. in lakhs)	CA to FA (in times)
2062/63	2077.79	1201.07	1.73
2063/64	2628.12	1213.37	2.17
2064/65	3371.81	1259.68	2.68
2065/66	3928.22	2028.15	1.94
2066/67	4000.77	2369.08	1.69
Average	3201.34	1614.27	2.04
S.D	746.65	489.54	0.36
C.V	23.32%	30.33%	17.65%

Source: Appendix-1

The average current assets and fixed assets of ATFPL during the study period are Rs. 3201.34 lakhs and Rs. 1614.27 lakhs respectively. The company's investment in current assets and fixed assets are increasing every year. The ratio between current assets to fixed assets of ATFPL is presented in the above table – 2. This table shows the ratio of current assets to fixed assets in fluctuating during the study period. It varies from 1.69 to 2.68 times during the observed period and the average CAFA ratio is 2.04 times with the statistical variation of 17.65%. The table also shows that the trend of CA to FA is in increasing year by year.

The relationship between CA & FA can also be clarified by the graphical representation.



The figure presented above shows the comparative analysis between CA & FA of ATFPL. From this figure, it is clear that the investment in current assets is higher than the fixed assets. However it is increasing during whole study period. The increasing rate of CA is higher than that of fixed assets. Thus, the diagram clearly shows that the company's current assets policy is changing towards the highly conservative from a moderate one.

4.3.1.2 Percentage of Current Assets on Total Assets:

To analysis how well the CA is managed by the ATFPL during the observed period, it is also necessary to analyze the relation between CA on TA.

For the purpose of studying the current assets from different angles, here is studied through the percentage of CA on TA.

The percentage recovered by CA on TA is presented below in table form.

Table – 3
Current Assets on Total Assets

Fiscal Year	Current Assets (Rs. in lakhs)	Total Assets (Rs. in lakhs)	CAFA (in %)
2062/63	2077.79	3278.86	63.37%
2063/64	2628.12	3841.49	68.41%
2064/65	3371.81	4631.49	72.80%
2065/66	3928.22	5956.37	65.95%
2066/67	4000.57	6361.85	62.81%
S Average	3201.34	4815.61	66.67%
S.D	746.65	1188.39	3.66%
C.V	23.32%	24.68%	5.49%

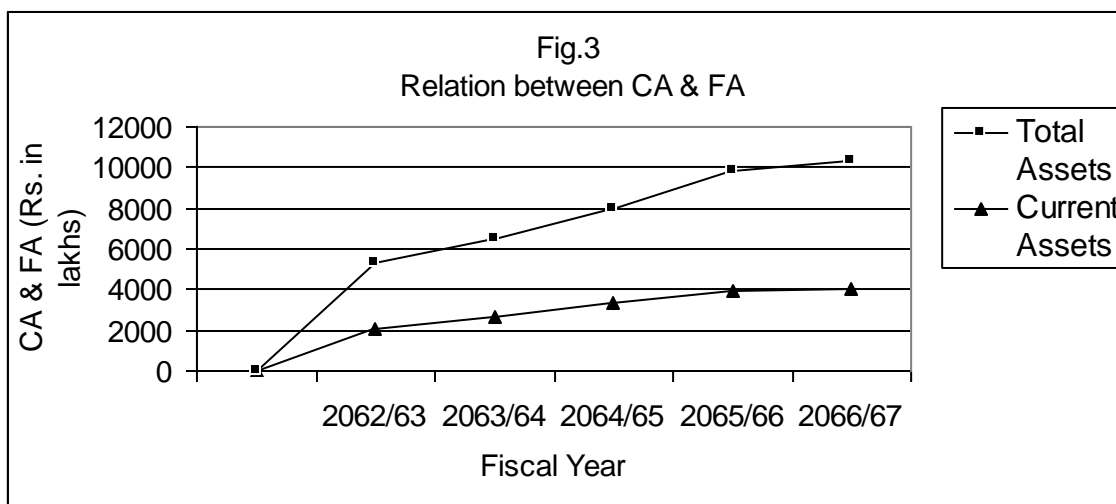
Source:
Appendix-1

endix-1

Standard deviation is the measure of total risk, higher the standard deviation higher the total risk of a security and vice-versa.

From the above table, it is cleared that the investment in current assets and total assets are in increasing trend. But the proportion of CA to FA is in fluctuating trend and the lowest and highest proportion of CA is in F/Y 2066/67 and 2064/65 respectively. Again, average proportion of CA to TA is found 66.67% with CV 5.49%.

The relationship between CA & FA also can be shown by the graphic representation, which is presented below:



According to the figure presented above, we can know that the investment in CA & TA is increasing every year during the study period. The highest investment in CA & TA is Rs.4000.77 lakhs and Rs.6369.85 lakhs respectively in F/Y 2066/67. In this year, there is also high variation between CA & TA. The highest percentage of current assets in total assets is 72.80% in F/Y 2064/65 and lowest percentage is 62.81% in F/Y 2066/67. It is also clear that more than 60% investment is recovered by CA in TA.

4.3.1.3 Percentage of Cash & Bank to Current Assets:

Each every business organization has financed their capital in cash among current assets. Cash & bank for business organization is blood for day to day operation. The firm needs cash to purchase raw materials and pay expenses. For the good management of current assets, it is necessary to manage the cash & bank well.

The percentage cash & bank to current assets is presented by table with its description as below:

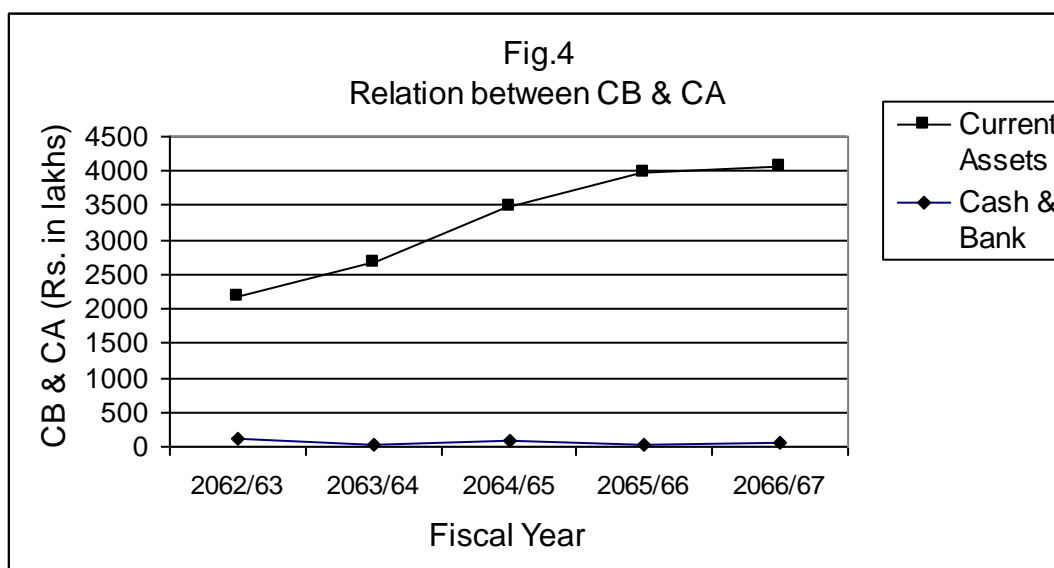
Table-4
Cash & Bank to Current Assets

Fiscal Year	Cash & Bank (Rs. in lakhs)	Current Assets (Rs. in lakhs)	CBCA (in %)
2062/63	105.95	2077.79	5.10
2063/64	35.23	2628.12	1.34

2064/65	100.66	3371.81	2.99
2065/66	41.66	3928.22	1.06
2066/67	50.61	4000.77	1.27
Average	66.82	3201.34	2.35
S.D	30.23	746.65	1.54
C.V	45.24%	23.32%	66.53%

Source: Appendix-1

As per the above table, cash and bank is in fluctuating trend and CA is in increasing trend. The ratio between cash & bank and CA is also in fluctuating trend. The highest proportion is in F/Y 2062/2063 and lowest in F/Y 2065/2066. The average CBCA is 2.35 which is lowest except the CBCA in F/Y 2062/2063 and 2064/65. The standard deviation of CBCA is 1.54, which clears that there is lower risk.



The above figure shows the condition of cash & bank and current assets of ATFPL from F/Y 2062/63. As per this figure, cash & bank has taken very

small place comparatively to others in current assets. The variation between CB and CA is increasing every year because there is increasing trend of CA but CB is in fluctuating trend.

4.3.1.4 Percentage of Current Assets to Sales:

Sales are only that activity which generated cash inflows. So, it is vital for manufacturing company ATFPL. The survival and growth of every manufacturing firm depends on the proportion sales of the product which they produce. The company's sales policy depends upon the available of resources and demand for the product. It is generally affected by the financial policy and their strategic planning. Therefore, the co-ordination between these elements of the company is the most important. Thus, the company invests in current assets to support the given level of sales. The amount of investment in current assets is to support the given level of sales, which depends upon the current assets investment policy and the attitude of management. When a firm holds relatively large amount of current assets to support a given level of sales then it is called fat-cat policy. When a firm holds relatively minimum amount of current assets to support sales then it is called lean & mean policy and between these two policies is called a moderate policy. For the purpose of analysis of investment policy of current assets, percentage of current assets to sales has been used.

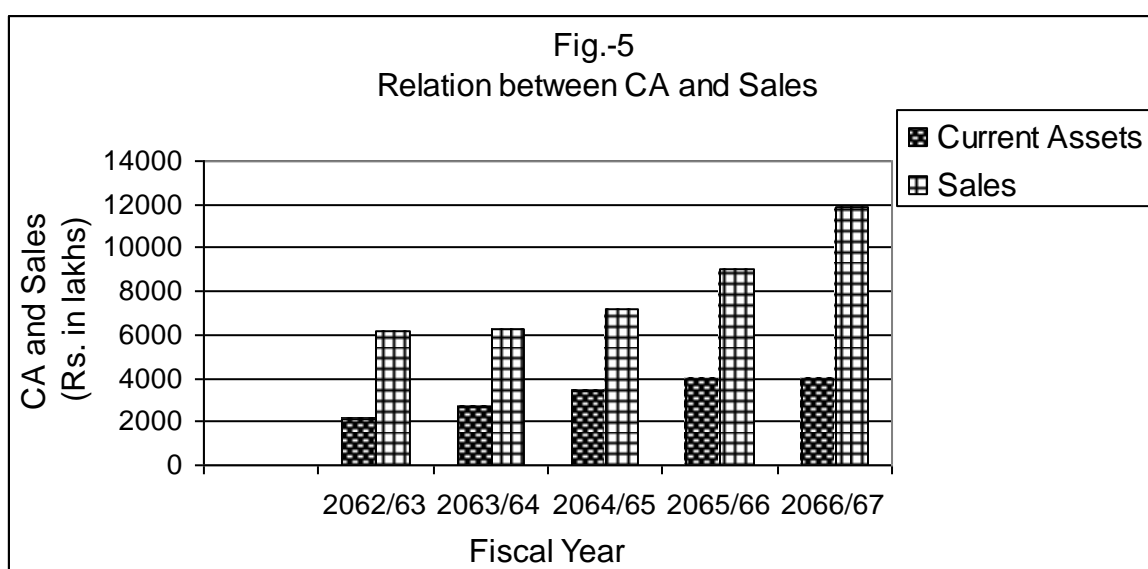
Table – 5

Ratio of Current Assets to Sales:

Fiscal Year	Current Assets (Rs. in lakhs)	Sales (Rs. in lakhs)	CA to Sales (in %)
2062/63	2077.79	6179.33	33.62
2063/64	2628.12	6244.88	58.10
2064/65	3371.81	7172.39	47.01
2065/66	3928.22	9026.60	43.52
2066/67	4000.77	11854.64	33.75
Average	3201.34	8095.57	43.20
S.D	746.65	2142.28	9.14
C.V	23.32%	26.46%	21.16%

Source: Appendix-1&2

The percentage of current assets to sales of ATFPL is presented in table - 5. The percentage of current assets to sales is also fluctuating during the study period. It varies from 33.62% to 58.10%. More than 50% of assets are invested in current assets in the F/Y 2063/64 and the average investment in current assets to sales is 43.20% with the statistical variation of 21.16, which shows that in order to maximize the sales, the company is investing large amount in current assets. These facts suggest that the company is following fat-cat policy. As the percentage, CAS increases the risk and profitability also increases and vice-versa.



The fig.5 shows the proportion of current assets and sales of ATFPL. It is clear from the figure that the company is investing more in current assets in order to maximize the sales. Although the current assets and sales are increasing every year during the observed period but the percentage of current assets to sales is decreasing during the last 3 observed years. Thus, the diagram clearly shows that the company is using a fat-cat current assets investment policy.

4.3.2 Current Assets Financing Policy:

Every manufacturing concern needs the working capital for its regular operation. Working capital is divided into two part; permanent and temporary. The operation of permanent and temporary working capital depends on the

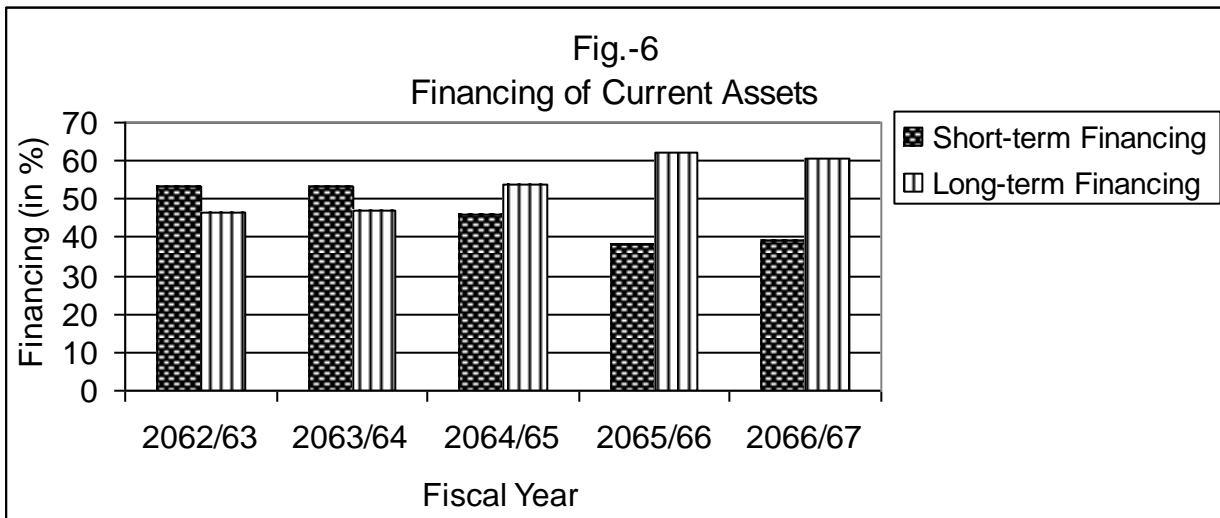
nature & size of the firm and it is also affected by the attitude of the management towards the risk and return. The access of the firm in source of fund also affects the working capital, it has to also raise funds required for working capital from different sources like short-term, long-term and spontaneous financing. However the firm uses different financing sources according to their financing policy i.e. aggressive, conservative and moderate. Firm should maintain the proper level of working capital by financing the current assets from appropriate sources.

Table-6
Financing of Current Assets

Fiscal Year	Current Assets (Rs. in lakhs)	Short-term Financing		Long-term Financing	
		Rs. in lakhs	%	Rs. in lakhs	%
2062/63	2077.79	1106.71	53.26	971.08	46.74
2063/64	2628.12	1396.39	53.13	1231.73	46.87
2064/65	3371.81	1552.60	46.05	1619.21	53.95
2065/66	3928.22	1492.37	37.99	2435.85	62.01
2066/67	4000.77	1571.40	39.28	2429.37	60.72
Average	3201.34	1423.89	45.94	1777.45	54.06
S.D	746.65	169.93	6.52	601.38	6.52
C.V	23.32%	11.93%	14.19	33.83%	12.06

Source: Appendix-1

The above table-6 shows that ATFPL has financed its working capital both with short-term and long-term financing. The amount of long-term financing is greater than short-term financing during the study period except first two years. The average percentages of short-term and long-term financing to current assets of ATFPL for five years are 45.94% and 54.06% respectively. The higher percentage of long-term financing used by the company to finance its current assets clearly that the company is following a conservative policy from F/Y 2064/65.



As per the above figure, we know about the financing of current assets into short-term & long-term financing during 5 years observed period i.e. from F/Y 2062/63 to F/Y 2066/67. The highest percentage of financing current assets is in long-term financing i.e. 62.01% in F/Y 2065/66. There is high variation in last two years of using current assets. From the F/Y 2064/65, the company is investing more current assets into long-term financing.

4.4 Turnover position:

The behavior of working capital utilization and improvement can be analyzed with the help of turn-over ratio. These ratios measure the effectiveness with which a firm uses its available resources. These ratios are called turnover ratios since they indicate the efficiency with which the resources are being converted into sales (turnover).

The turnover ratio and conversion period depends on the firm's working capital policy. If the firm follows a conservative policy, it will have low inventory ratio and high conversion period and vice-versa.

4.4.1 Inventory Turnover Ratio (ITR) and Inventory Conversion Period (ICP):

Inventories are the stock of the product, a company manufactures for the sales and the inventories are the components that make up a product. Inventory is the major part of the current assets. The shortage of required inventory results irregular productions and hamper the production process. In other hand, the excess inventory causes unnecessary holdings of capital which increases the cost. These ratios measure the effectiveness with which a firm utilizes its inventory.

The ratio between sales and inventory can be clarified by the tabled representation which is presented below:

Table-7
Inventory Turnover Ratio and Inventory Conversion Period

Fiscal Year	Sales (Rs. in lakhs)	Inventory (Rs. in lakhs)	ITR (in times)	ICP (in days)
2062/63	6179.33	487.60	12.67	28.81 \approx 29
2063/64	6244.88	1039.42	6.01	60.73 \approx 61
2064/65	7172.39	1265.63	5.67	64.37 \approx 65
2065/66	9026.60	1186.96	7.60	48.03 \approx 49
2066/67	11854.64	1226.30	9.67	37.75 \approx 38
Average	8095.57	1041.18	8.32	47.94 \approx 48
S.D	2142.28	287.18	2.59	13.56
C.V	26.46%	27.58%	31.13%	28.25%

Source: Appendix-1&2

The above table represents the ITR and ICP of ATFPL. The inventory turnover is fluctuating between 5.67 to 12.67 times during the study period. The average inventory turnover ratio is 8.32 with statistical variation 31.13%. And

the average sales and inventory of ATFPL during the five year study periods are Rs. 8095.57 lakhs and Rs. 1041.18 lakhs respectively. The inventory conversion period of ATFPL during the observed period is also fluctuating between 29 to 65 days. On average, it will take 48 days to convert its inventory into sales which is high. Thus, there is a normal utilization of inventory.

4.4.2 Receivable or Debtors Turnover Ratio (DTR) and Average Collection Period (ACP):

Receivable is the major component of current assets. It indicates the efficiency of the firm with the collection of book debts. The higher the ratio, the better it is, since it would indicate the debts are being collected more promptly.

Table-8
Debtors Turnover Ratio and Average Collection Period

Fiscal Year	Sales (Rs. in lakhs)	Sundry Debtors (Rs. in lakhs)	DTR (in times)	ACP (in days)
2062/63	6179.33	1278.53	4.83	75.57 ~ 76
2063/64	6244.88	1086.95	5.75	63.48 ~ 64
2064/65	7172.39	1435.52	5.01	72.85 ~ 73
2065/66	9026.60	2181.18	4.14	88.16 ~ 89
2066/67	11854.64	2267.88	5.23	69.70 ~ 70
Average	8095.57	1650.01	4.99	73.97 ~ 74
S.D	2142.28	482.69	0.5261	8.16
C.V	26.46%	29.25%	10.54%	11.03%

Source: Appendix-1&2

The above table 8 shows the DTR and ACP of ATFPL during the study period. The DTR during the observed period is fluctuating between 4.74 to 5.75 times and the ACP of ATFPL is fluctuating between 64 to 89 days. On average,

the firm takes 74 days to collect its book debts and the statistical variation is 11.03%. Thus, the low DTR & high ACP of ATFPL show the weak efficiency of ATFPL in collecting its debts.

4.4.3 Total Assets Turnover Ratio (TATR):

This ratio shows the relationship between sales and total assets. The main objective of this ratio is to determine the efficiency with the total assets is utilized.

Table-9
Total Assets Turnover Ratio

Fiscal Year	Sales (Rs. in lakhs)	Total Assets (Rs. in lakhs)	TATR (in times)
2062/63	6179.33	3278.86	1.88
2063/64	6244.88	3841.49	1.63
2064/65	7172.39	4631.49	1.55
2065/66	9026.60	5956.37	1.52
2066/67	11854.64	6369.85	1.86
Average	8095.57	4815.61	1.69
S.D	2142.28	1188.39	0.153
C.V	26.46%	24.68%	9.06%

Source: Appendix-1&2

The above table-9 represents the TATR of ATFPL during the five year study period. The TATR is fluctuating between 1.52 to 1.88 times. The average sales & total assets are Rs.8095.57 lakhs and Rs.4815 lakhs and statistical

variation are 26.46% and 24.68% respectively. And both the sales & total assets are in increasing trend. The company's average TATR during the observed period is 1.69 times which indicates that the firm has to invest Rs.1 in its total assets in order to generate sales of Rs.1.69.

4.5 Liquidity Position:

Liquidity is crucial for firm's daily operation. The first and foremost objective of adopting working capital policy is to maintain appropriate and optimum level of liquidity in order to enable the enterprises to meet current short-term obligation when they become due for the payment. Liquidity is a prerequisite for the avoidance of technical insolvency and ultimately for the survival of the enterprises. However, it is a very crucial problem in maintaining the appropriate liquidity in any company as it indicates risk return trade off with higher or lower liquidity level. Higher liquidity reduces the risk but decreases the profitability and vice-versa.

4.5.1 Current Ratio (CR):

Current ratio measures the short-term solvency of the firm. This ratio is the crude measurement of liquidity position of a firm. In this study also, this ratio has been calculated by dividing the current assets by current liabilities. Current assets includes: sundry debtors, inventory, cash etc. which can be converted into cash within an accounting year and current liabilities includes: sundry creditors and provisions.

The CR can be clarified by the table & graphic representation, which are presented below:

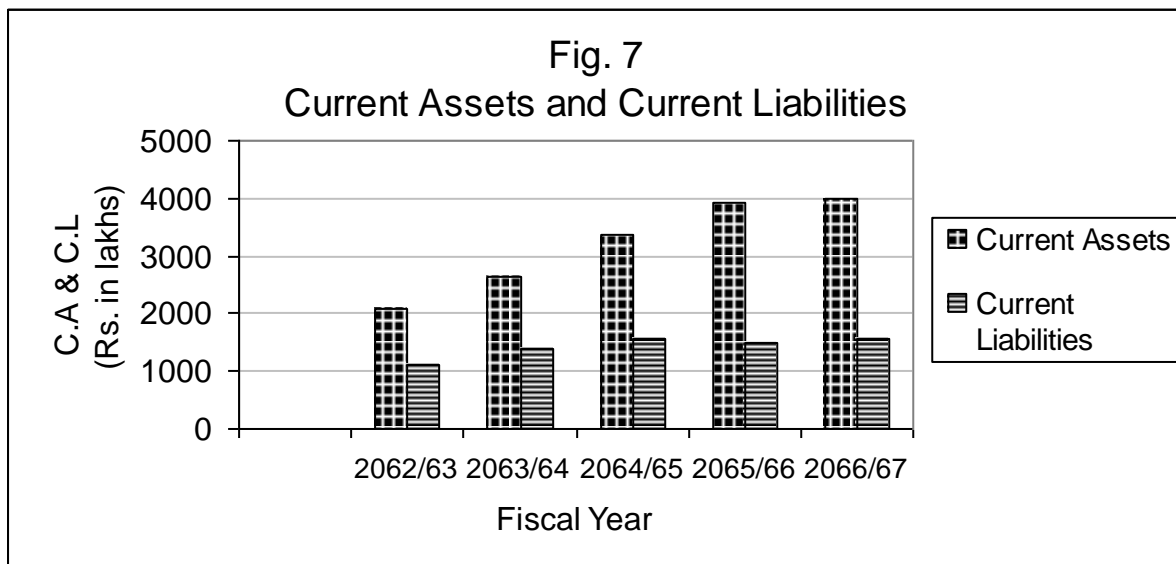
Table-10
Current Ratio

Fiscal Year	Current Assets (Rs. in lakhs)	Current Liabilities (Rs. in lakhs)	Current Ratio (in times)

2062/63	2077.79	1106.71	1.88
2063/64	2628.12	1396.39	1.88
2064/65	3371.81	1552.60	2.17
2065/66	3928.22	1492.37	2.63
2066/67	4000.77	1571.40	2.55
Average	3201.34	1423.89	2.22
S.D	746.65	169.93	0.3196
C.V	23.32%	11.93%	14.40%

Source: Appendix-1

The above table represents the current ratio of ATFPL during the study period. The CR during the study period was fluctuating through out the period. The average CR is 2.22 times, which is more than the standard of 2:1. The CR was highest in F/Y 2065/66 and lowest in first two years. Except in last two years, the CR of the company is less than the average CR, it indicates that CL are not fully secured with the current assets and the company is not in good position to pay its obligation as and when they will mature.



The figure presented above shows the current assets and current liabilities position of ATFPL during the five years study period. The level of current assets to current liabilities is in increasing trend but the current asset is in increasing more than the current liabilities except in F/Y 2066/67. The figure

shows clearly that the firm has more current assets than current liabilities. Thus, the company has sound liquidity position.

4.5.2 Quick Ratio (QR)

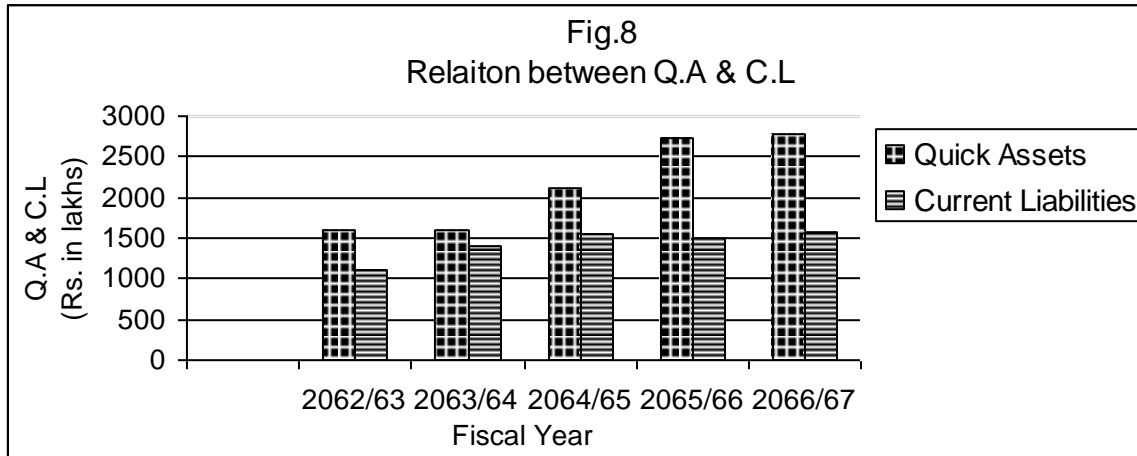
Quick ratio measures the short-term solvency in gross term. It include inventory too. Thus, it does not measure the actual liquidity position of the firm. Therefore, QR has been used to measure the liquidity position of ATFPL. For the purpose of calculation of this ratio, inventories are excluded from total current assets.

Table-11
Quick Ratio

Fiscal Year	Quick Assets (Rs. in lakhs)	Current Liabilities (Rs. in lakhs)	Quick Ratio
2062/63	1590.18	1106.71	1.44
2063/64	1588.70	1396.39	1.44
2064/65	2106.17	1552.60	1.36
2065/66	2741.26	1492.37	1.84
2066/67	2774.48	1571.40	1.77
Average	2106.16	1423.89	1.51
S.D	523.34	169.93	0.2611
C.V	24.23	11.93%	17.29%

Source: Appendix-1

According to the above table, the liquidity position of ATFPL is in net term. The average quick asset is Rs. 2160.16 lakhs and average current liability is Rs. 1423.89 lakhs. The QR is in fluctuating trend during observed period. The average QR of the company is 1.51 times, which is more than the standard of 1:1. The QR is more than the average in last two years. The high QR of the firm suggests that the company is highly liquid.



The above figure represents the relation of quick assets and current liabilities of the firm during the five years period. Both the quick assets and current liabilities are in fluctuating trend. As per the above table, there is more difference between QA & CL in last two observed years. The high ratio of QR proves the presence of sound liquidity position in ATFPL.

4.6 Analysis of Current Assets and Current Liabilities:

To operate the business, different kinds of assets are needed. For the day-to-day business operation, various kinds of current assets are required. Current assets are those assets which can be converted into cash within an accounting year. During the operation of business various liabilities are created. Current liabilities are those liabilities which are expected to mature within the accounting year. Therefore, the current assets and current liabilities of ATFPL are analyzed below.

4.6.1 Composition of Current Assets:

The success and failure of any business depends on its effective utilization of resources which depends on the daily business activities. For smooth running of a business, appropriate level of current assets i.e. gross working capital should be maintained by the company.

A high ratio of current ratio on total assets does not always convey a high liquidity position because the current assets consists of cash and bank balance, inventories, sundry debtors and miscellaneous current assets (loan & advance, deposits & other receivables, prepaid expenses etc.). Moreover, except cash,

receivables and inventories have to wait for conversion into cash. Therefore, they are less liquid. Hence, for qualitative consideration of the current assets and its composition should be seriously examined. The quality of current assets can be judged with the individual holding of inventories, sundry debtors, cash and bank balance and misc. current assets to total current assets holding. The relationship has been established by computing the ratio of sundry debtors, inventories, cash & bank balance and misc. current assets to total current assets as below.

Table-12
Composition of Current Assets (Rs. in lakhs)

Fiscal Year	Inventory		Sundry Debtors		Cash & Bank		Misc. C.A		Total C.A
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.
2062/6	487.60	23.4	1278.5	61.5	105.9	5.1	205.7	9.90	2077.7
3		7	3	3	5	0	1		9
2063/6	1039.4	39.5	1086.9	41.3	35.23	1.3	466.5	17.7	2628.1
4	2	5	5	6		4	2	5	2
2064/6	1265.6	37.5	1435.5	42.5	100.6	2.9	570.0	16.9	3371.8
5	3	4	2	7	6	9	1	1	1
2065/6	1186.9	30.2	2181.1	55.5	41.66	1.0	518.4	13.2	3928.1
6	6	2	8	3		6	3	0	2
2066/6	1226.3	30.6	2267.8	56.6	50.61	1.2	455.9	11.4	4000.7
7	0	5	8	9		7	8	0	7
Average	1041.1	32.2	1650.0	51.5	66.82	2.3	443.3	13.8	3201.3
e	8	8	1	4		5	3	3	4

Source: Appendix-1

The table-12 represents the composition of current assets of ATFPL. In this table, percentage indicates the proportion of individual current assets to total current assets. In this table, all the components of current assets are highly fluctuating during the study period. The overall average of current assets is Rs. 3201.34 lakhs which is less than the final three years of current assets.

4.6.1.1 Sundry Debtors to Current Assets (SDCA):

According to the table-12, the average amount of receivable or sundry debtors during the five years observed period is Rs. 1650.01 lakhs. The ratio of SDCA is fluctuating between 41.36% to 61.53%. The SDCA is in increasing trend except in first observed year 2062/63. The SDCA is highest in F/Y 2062/63 and lowest in F/Y 2063/64. The overall average SDCA of ATFPL is 51.54%. The sundry debtor holds the largest proportion in total current assets of ATFPL.

4.6.1.2 Inventory to Current Assets (ICA):

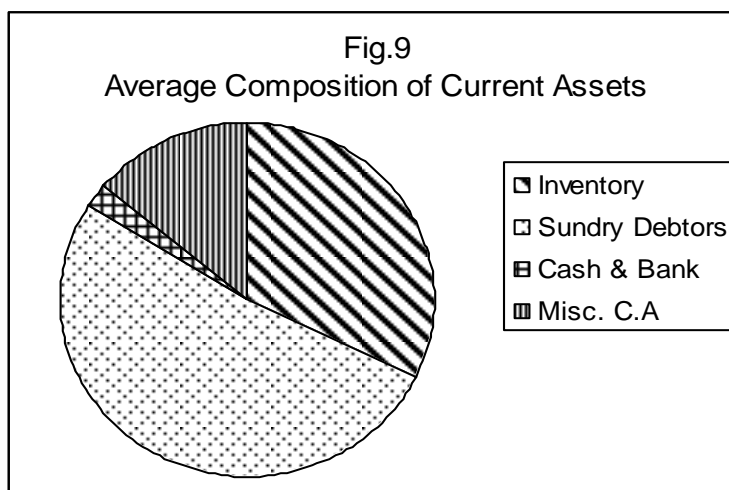
The company's average inventory to current assets is 32.28% and the overall average inventory during the study period is 1041.18 lakhs. The ICA is in fluctuating trend over the study period. A proportion of ICA is fluctuating between 23.47% and 39.55%. Company's inventory includes raw materials, work-in-progress and finished goods.

4.6.1.3 Cash & Bank Balance to Current Assets (CBCA):

The table-12 shows the percentage of CBCA. The CBCA holds the least position in total current assets of ATFPL. The average CBCA is 2.35% which is less than the first and third year of the study period. In this table, cash & bank balance is also fluctuating during the observed period. The overall average cash & bank balance is Rs. 66.82 lakhs. The CB is notably higher in F/Y 2062/63.

4.6.1.4 Misc. Current Assets to Current Assets (MCACA):

Miscellaneous current assets are another major component of current assets. It includes the amount of prepaid expenses, advance to employees, deposits, loan etc. The average MCACA is 13.83% which is less than the MCACA calculated in F/Y 2063/64 and 2064/65. The proportion of MCACA is increasing trend from the third year of the study period. The highest percentage of MCACA is in F/Y 2063/64 and lowest in F/Y 2062/63.



4.6.2 Composition of Current Liabilities:

Current liabilities are the integral part of the working capital policy. Current liabilities are defined as all the payment that has to be paid by the company within an accounting period. It includes sundry creditors and provisions like provision for taxation, unclaimed dividend, provision for bonus etc. Firm should maintain the optimum level of liquidity in order to enable the organization to meet the current obligations.

Table-13

Composition of Current Liabilities

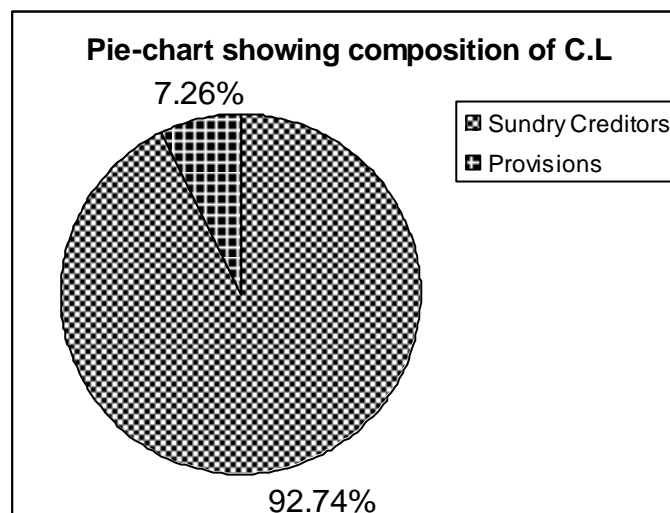
Fiscal Year	Sundry Creditors		Provisions		Total C.L
	Rs. in lakhs	%	Rs. in lakhs	%	Rs. in lakhs
2062/63	1055.42	95.37	51.29	4.63	1106.71
2063/64	1345.97	96.39	50.42	3.61	1396.39
2064/65	1450.80	93.44	101.80	6.56	1552.60
2065/66	1350.88	90.52	141.50	9.48	1492.38
2066/67	1382.55	87.98	188.84	12.02	1571.39
Average	1317.12	92.74	106.77	7.26	1423.89

Source: Appendix-1

The above table shows the composition of current liabilities from F/Y 2066/67. According to this table, the average total current liabilities of the company is Rs. 1423.89 lakhs, which is greater than all the F/Y of the study period except first two years i.e. 2062/63 and 2063/64. In the table, current

liabilities consist of sundry creditors and provisions. The sundry creditors mainly consist of advance against suppliers, creditors for goods, creditors for expenses and other liabilities. The average sundry creditors of ATFPL during the 5 years study period is Rs. 1317.12 lakhs and the average sundry creditors to total current liabilities is 92.74%. The company's sundry creditor to total current liabilities is in decreasing trend except in last year. The highest ratio is in F/Y 2063/64 i.e. 96.39% and the lowest ratio is in F/Y 2066/67 which is 87.98%.

Another component of current liabilities is provisions. Provision includes provision for taxation, provision for housing, provision for bonus and other provisions. The overall average provision of ATFPL during the study period is Rs. 106.77 lakhs. Unlike sundry creditors, the ratio of provisions to total current liabilities is in decreasing trend from F/Y2064/65 in which the percentage of provisions has increased in last 3 years. The average provision to total current



liabilities is 7.26%.

4.7 Statistical Analysis of Working Capital:

The financial performance of a manufacturing company is directly related to their ability to manage working capital efficiently and effectively. The working capital used in this study is of gross concept i.e. total current assets. The use of financial tools has already given adequate trust in show the working capital management. To make the analysis more fruitful and weighty, certain statistical tools have been used. Here, Karl Pearson's coefficient of correlation (r) and probable error (PE) are used to show the relationship between the gross

working capital and other variables (net profit after tax, fixed assets, sales, gross profit and current liabilities) and their results are presented below.

Table-14

Relationship Between Gross Working Capital and Other Variables:

Variables	Correlation (r)	Probable Error (PE)	Remarks
CA to NPAT	0.44	0.24	Not significant
CA to FA	0.84	0.09	Highly significant
CA to Sales	0.84	0.09	Highly significant
CA to GP	0.60	0.19	Not significant
CA to CL	0.89	0.06	Highly significant

Source: Appendix-3,4,5,6&7

There is an adverse relationship between current assets and net profit after tax. It's 'r' is 0.44 but PE is 0.24. However, 'r' is not greater than six times of its PE. So, it is not significant. Hence, there is no significant impact on net profit after tax due to increase or decrease in working capital.

The Karl Pearson's coefficient of correlation 'r' between current assets and fixed assets is +0.84, so there is high degree of positive correlation exists between them its PE is 0.09. Since, the 'r' is greater than 6 times of its PE, there is highly significant relationship between gross working capital and fixed assets i.e. increase or decrease in gross working capital affects the fixed assets of ATFPL.

There is a positive relationship between current assets and sales i.e. increase in working capital will increase the sales. The correlation coefficient 'r' between current assets and sales is +0.84 and its PE is 0.09 which is same relation with CA to FA. The 'r' is six times more than its PE which shows that there is a very high degree of positive correlation exists between current assets and sales of ATFPL. Hence, there is a significant relationship between gross working capital and sales so CA leads to increase in sales and vice-versa.

According to table-14, the 'r' between current assets and gross profit is +0.60 and the PE is 0.19. Although 'r' is greater than its PE but it is no significant relationship between current assets and gross profit. But, there is a positive and moderate degree of relationship exists between gross working capital and gross profit.

The Karl Pearson's coefficient of correlation between current assets and current liabilities is +0.89 which is greater than the six times of its PE. Therefore, there is a high degree of positive correlation between current assets and current liabilities and there is significance relationship between current assets and current liabilities which is a good trend for ATFPL.

4.8 Major Findings of the Study:

The major findings of this study are concluded in the following points:

- i. The proportion of current assets to fixed assets is fluctuating during the observed period. It has varied from 1.69% to 2.68% during the study period. The overall average of current assets to fixed assets is 204%, which is high ratio. Hence, the current assets investment policy of the company is shifting towards the conservative policy. And it indicates lower risk and greater liquidity.
- ii. The relation between current assets to sales is also fluctuating during the study period. The investment in CA is increasing every year. The maximum ratio is 58.10% in F/Y 2063/64 and minimum ratio is 33.62% in F/Y 2062/63 and the overall average percentage of current assets to sales is 43.20% which shows that the company is investing large amount of current assets in order to maximize its sales. Thus, a company is practicing a fat cat current assets investment policy.
- iii. The company is financing its current assets mostly from long-term sources except in first two F/Ys. The percentage of short-term financing and long-term financing to current assets is in fluctuating trend. The short-term financing is decreasing trend where as long-term financing is in increasing trend except in F/Y 2066/67 but the overall average percentage of short-term & long-term financing to current assets of ATFPL for five years are 45.94% & 54.06% respectively. Since, the company is financing more than 50% of its working capital through the long-term sources; it is following a conservative working capital policy.

- iv. The inventory turnover is fluctuating during the study period. It has varied from 5.67 to 12.67 times during the study period. It is highest in F/Y2062/63 and lowest in F/Y 2064/65 and the overall average is 8.32 times. Normally the firm will take 48 days to convert inventory into sales. Thus, the inventory turnover is not fully satisfactory.
- v. The average receivable turnover of the ATFPL is 4.99 times and average collection period is 74 days which is higher than the theoretical concept of net 30 days. It is also fluctuating during the study period. It is maximum in F/Y 2063/64 and minimum in F/Y 2065/66.
- vi. The total assets turnover of the company is in decreasing trend except in F/Y 2066/67. It is highest in F/Y 2062/63 and lowest in F/Y 2065/66 and the overall average is 1.69 times which means that the firm has to invest Rs. 1 in its total assets in order to generate sales of Rs. 1.69.
- vii. The liquidity position of the ATFPL is analyzed with the help of current ratio & Quick ratio. The current ratio of the company is ranging between 1.88 to 2.63 times during the study period in fluctuating trend. The overall average current ratio is 2.25 times, which is more than the norm of 2:1. The quick ratio of the company is in fluctuating trend. It is maximum in F/Y 2065/66 and minimum in first two F/Ys and the overall average quick ratio is 1.51 times, which is also greater than the standard ratio of 1:1. Hence, the company is highly liquid.
- viii. The major components of current assets in ATFPL are inventories, sundry debtors, cash & bank and misc. current assets. Among them sundry debtors holds the major portion of current assets. The average proportions of inventories, debtors, cash & bank and misc. current assets are 32.18%, 51.54%, 2.35% and 13.83% respectively during the study period. It is found that of total current assets, sundry debtors hold the largest portion followed by inventory, misc. CA and cash & bank balance

respectively. The overall average of total CA of ATFPL during the study period is Rs. 3201.34 lakhs and is increasing every year.

- ix. Sundry creditors have held the major portion of current liabilities of ATFPL. The average percentages of sundry creditors and provisions to total current liabilities are 92.74% and 7.26% respectively. The minimum percentage of sundry creditors to total current liabilities is 87.98% in F/Y 2066/67 and maximum is 96.39% in F/Y 2063/64. The provisions to current liabilities vary from 12.02% to 3.61%. Therefore the components of current liabilities are moderately fluctuating during the study period. The overall average of total current liabilities of ATFPL during the study period is Rs.1423.89 lakhs and is in fluctuating trend.
- x. Karl Pearson's coefficient of correlation between net profit after tax, fixed assets, sales, gross profit and current liabilities to current assets are 0.44, 0.84, 0.84, 0.60 and 0.89 respectively. There is a highly significant and positive correlation between CA and FA, CA and sales, CA and CL and moderate correlation but not significant relationship between CA & NPAT and CA & GP during the study period of ATFPL.

CHAPTER-5

SUMMARY, CONCLUSION AND RECOMENDATION

5.1 Summary:

The first chapter focuses on the brief introduction of the study, industrialization and its role in Nepal. It attempts to introduce ATFPL. Some of the questions have been raised regarding the working capital management of ATFPL. It has also attempted to set the objectives, significance and limitations of the study. Finally it presents plan of study.

The second chapter deals with the review of literature which included the conceptual framework different views of different writers regarding the working capital management, books and journals/articles. Review of literature section has also attempted to review the studies done so far on the same topic on different organizations.

Research methodology is studied in the third chapter. It has included the research design. It presents the nature and source of data, data collection and processing techniques and financial and statistical tools used. Financial ratios like current ratio, current assets to fixed assets, current assets to total assets, cash & bank, inventory, misc. current assets and debtors to current assets and turnover ratio have been used. Karl Pearson's coefficient of correlation and probable error have been used to analyze the trade off between working capital and other variables (net profit after tax, sales, gross profit, current liabilities and fixed assets.)

The fourth includes the presentation and analysis of data derived from ATFPL. To analyze the working capital policy, proportion of current assets to fixed assets, current assets to total assets, current assets to sales and proportion of current assets to short-term sources & long-term sources are used. It has also analyzed impact of working capital on the liquidity, turnover and the composition of current assets and current liabilities are analyzed. Finally, the relationship between working capital and other

variables (net liabilities) are analyzed with the help of Karl Pearson's coefficient of correlation and probable error.

According to the study, the trend of current assets to fixed assets is increasing every year. The average ratio is 2.04 and the CATA ratio is in fluctuating trend. The CA to TA is also fluctuating between 62.81% to 72.80%. The average proportion of current assets to sales is 43.20%, which shows that the company is financing its sales by investing large amount in current assets. The company is financing its current assets by using long-term as well as short-term source to current assets is 45.94% and 54.06%. These data shows that the ATFPL is following a conservative policy.

The inventory turnover of the company is fluctuating between 5.67 to 12.67 times during the study period with overall average of 8.32 times and the average ICP is 48 days. The receivable turnover is fluctuating between 64 to 89 days. On average, it will take 74 days for the firm to collect its book debts. The average total assets turnover is 1.69 times with the highest ratio in F/Y 2062/63 and the lowest ratio in F/Y 2065/66.

Liquidity is crucial for the daily operation of a business. The ATFPL's current ratio and quick ratio are more than the standard. The current ratio is in increasing trend except in the F/Y 2066/67 with the overall average of 2.22 times but the quick ratio is fluctuating every year except in F/Y 2063/64. It also clears that both CR and QR are equal in first two years.

Current assets of ATFPL consist of inventory, sundry debtors, cash & bank and misc. current assets. Sundry debtors and inventory hold the major portion of current assets. The overall average of current assets during the observed period is Rs. 3201.34 lakhs and the average percentage of inventory, sundry debtors, cash & bank and misc. current assets to total assets are 32.28%, 51.54%, 2.35%, and 13.83% respectively.

Current liabilities consists 9274% of sundry creditors and 7.26% of provisions during the study period. The overall average of total current

liabilities is Rs. 1423.89 lakhs and is increasing every year except in F/Y 2065/66.

In the analysis of relationship between gross working capital and other variables, there is a low degree of correlation exist between CA and NPAT but not significant. There is moderate correlation between CA and gross profit but not significant and a highly positive correlation and significant relationship between CA & FA, CA & sales and CA & CL.

5.2 Conclusions:

- i. For a smooth operation of a business, a sound management of working capital is required. Gross working capital management of current assets of the firm. Different firms can adopt different working capital policy according to the management attitude towards risk-return trade off.
- ii. The large investment in current assets to improve the sales and the greater use of long-term source to finance the current assets proves that the ATFPL is practicing a conservative working capital policy.
- iii. For the analysis of turnover position, inventory turnover ratio has been calculated. The highest portion of inventory is held by the raw materials. Inventory turnover ratio is very low and is not up to the standard. Receivable turnover of the company is also very low. Thus, turnover position of ATFPL is very weak.
- iv. The current ratio and quick ratio of the ATFPL is more than the standard. The average CR and QR during the study period is 2.22 and 1.51 times and both the ratios are in increasing trend except in the F/Y 2066/67. Hence, the company has sound liquidity position.
- v. All the components of current assets are highly fluctuating during the study period. Sundry debtors hold the major portion of current assets. Sundry creditors hold the 92.74% of total current liabilities

and there is a highly significant relationship between CA and CL of ATFPL, which is a good trend for ATFPL.

- vi. The statistical analysis gives the mixed results regarding the various factors of working capital. Correlation between current assets and current liabilities, current assets and fixed assets and current assets and sales shows the highly significant relations. Furthermore current assets have moderate but insignificant relation with gross profit and net profit after tax.

5.3 Recommendations:

On the basis of finding of the study, following recommendations for the overall improvement of the working capital management are forwarded to the management of ATFPL.

- i. The turnover position of ATFPL is very low with high conversion period. Thus, the management is advised of reduce its conversion period and increase the turnover ratio. For this, the management should improve the marketing policy and also should set certain target for credit policy and avoid unnecessary increase in the volume of sundry debtors. For inventory turnover, management should reduce the huge amount of inventory or the optimum level should be adjusted according to the sales and production. An effective inventory turnover should be introduced in order to control inventory in accordance with their value and importance and thus maintain good inventory position.
- ii. ATFPL has very high liquidity position. The high liquidity makes the current liabilities fully secured with current assets and the company is in a position to pay its obligation as and when they will mature but the unnecessary capital is tied-up in maintaining the high liquidity which can be used in other sectors. Therefore, the

management is advised to reduce the liquidity ratio to the standard of 2:1.

- iii. The current assets and current liabilities of ATFPL are in good position and the CR & QR show that there are more current assets than current liabilities. But, in the last two F/Ys, the CR & QR ratios have been the highest during the study period which shows that the percentage of current liabilities has decreased more than percentage of current assets from previous years which shows sound position. Thus, company should continue to reduce the amount of current liabilities in the near future also.
- iv. Risk is the opportunity for the business to make profit. Thus the management should not consider it as a danger. For the efficient utilization of current assets, the management should first identify its strength and weakness and then the strength should be utilized to take the opportunity in the business. To develop managerial ability to take risk, there should be training, participation in management conference; foreign enterprises tour etc. for the managerial level employees.

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APPENDICES
Appendix -1
Comparative Balance Sheet
of
Asian Thai Foods Private Limited

Unit: Rs. in Lakhs

Particulars	Fiscal Year				
	2062/63	2063/64	2064/65	2065/66	2066/67
Capital & Liabilities:					
Share Capital	1050.00	1050.00	1050.00	2000.00	2000.00
Reserve & Surplus (Profit)	289.25	289.25	289.25	125.34	230.86
Loans	832.90	1435.47	1992.45	2338.65	2567.60
Grand Total	2172.15	2774.72	3331.70	4463.99	4798.46
Assets :					
Fixed assets	1201.07	1213.37	1259.68	2028.15	2369.08
Current Assets					
inventories	487.60	1039.42	1265.63	1186.96	1226.30
Trade and other receivables	1278.53	1086.95	1435.52	2181.18	2267.88
Cash and bank	105.95	35.23	100.66	41.66	50.61
Misc, current assets	205.71	466.52	569.99	518.42	455.98
Total current Assets	2077.79	2628.12	3371.80	3928.22	4000.77
Total Assets	3278.86	3841.49	4631.48	5956.37	6369.85
Current liabilities & Provisions					
Current Liabilities	1055.42	1345.97	450.80	1350.88	1382.55
Other liabilities & Provisions	51.29	50.42	101.80	141.50	188.84
Total Current Liabilities	1106.71	1396.39	1552.60	1492.38	1571.39
Net Current Assets	971.08	1231.73	1819.20	2435.84	2429.38
Net ^P / _L ^a / _c	—	329.62	252.82	—	—
Grand Total	2172.15	2774.72	3331.70	4463.99	4798.46

Source :- Annual Report of ATFPL

Appendix -2
Comparative Income Statement
of
Asian Thai Foods Private Limited

Unit: Rs. in Lakhs

Particulars	Fiscal Year				
	2062/63	2063/64	2064/65	2065/66	2066/67
Sales revenue	6179.33	6244.88	7172.39	9026.60	11854.64
Cost of goods sold	5161.92	5796.15	6135.22	7890.51	10562.61
Gross Profit	1017.41	448.73	1037.17	1136.09	1292.03
Administrative expenses	510.21	360.20	463.71	462.01	540.52
Selling & distribution exp.	192.99	159.07	168.92	192.18	210.70
Operating Profit	314.21	(70.54)	404.54	481.90	540.81
Other revenue (+)	1.80	–	–	–	–
Interest expenses	40.44	64.97	70.90	103.65	124.80
Depreciation expenses	163.55	173.43	176.28	215.56	224.59
Repairing & maintaining exp.	15.62	20.68	49.75	40.42	46.34
Provision for bonus	8.76	–	9.78	11.11	13.19
NP Before tax	87.64	(329.62)	97.83	111.16	131.89
Provision for tax	18.84	-	21.03	22.23	26.38
NP after tax	68.80	(329.62)	76.80	88.93	105.51
Net Profit / Loss	68.80	(329.62)	76.80	88.93	105.51

Source :- Annual Report of ATFPL

Appendix -3
Calculation of coefficient of correlation Between current Assets (CA)
and Net Profit After tax (NPAT)

Fiscal Year	CA (X)	NPAT (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	x^2	y^2	xy
2062/63	20.78	0.69	- 11.23	0.67	126.11	0.45	-7.52
2063/64	26.28	(3.30)	-5.73	3.32	32.83	11.02	19.02
2064/65	33.71	0.77	1.70	0.75	2.89	0.56	1.28
2065/66	39.28	0.89	7.27	0.87	52.85	0.76	6.32
2066/67	40.01	1.06	8.00	1.04	64.00	1.08	8.32
N=5	$\Sigma X = 160 .06$	$\Sigma Y = 0.11$			$\Sigma x^2 = 278 .68$	$\Sigma y^2 = 13 .87$	$\Sigma xy = 27 .42$

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{160 .06}{5} = 32 .01$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{0.11}{5} = 0.02$$

Now,

$$\text{Correlation } r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{27 .42}{\sqrt{278 .68} \sqrt{13 .87}} = 0.42$$

Again,

$$\begin{aligned} \text{Pr obableerro } r(PE) &= 0.6745 \times \frac{1 - r^2}{\sqrt{N}} \\ &= 0.6745 \times \frac{1 - 0.44^2}{\sqrt{5}} \\ &= 0.6745 \times 0.3606 \\ &= 0.24 \end{aligned}$$

Source :- Appendix – 1&2

Appendix -4
Calculation of coefficient of correlation Between CA & FA

Fiscal Year	CA (X)	FA (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	x^2	y^2	xy
2062/63	20.78	12.01	- 11.23	- 4.13	126.11	17.06	46.38
2063/64	26.28	12.13	- 5.73	- 4.01	32.83	16.08	22.98
2064/65	33.71	12.60	1.70	- 3.54	2.89	12.53	- 6.02
2065/66	39.28	20.28	7.27	4.14	52.85	17.14	30.10
2066/67	40.01	23.69	8.00	7.55	64.00	57.00	60.40
N=5	$\Sigma X = 160 .06$	$\Sigma Y = 80 .71$			$\Sigma x^2 = 278 .68$	$\Sigma y^2 = 119 .81$	$\Sigma xy = 153 .84$

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{160 .06}{5} = 32 .01$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{80 .71}{5} = 16 .14$$

Now,

$$\text{Correlation } n(r) = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{153 .84}{\sqrt{278 .68} \sqrt{119 .81}} = 0.84$$

Again,

$$\begin{aligned} P.E. &= 0.6745 \times \frac{1 - r^2}{\sqrt{N}} \\ &= 0.6745 \times \frac{1 - 0.84^2}{\sqrt{5}} \\ &= 0.09 \end{aligned}$$

Source :- Appendix – 1&2

Appendix -5

Calculation of coefficient of correlation Between current Assets & Sales:

Fiscal Year	CA (X)	Sales (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	x^2	y^2	xy
2062/63	20.78	61.79	-11.23	-19.17	126.11	367.49	215.28
2063/64	26.28	62.45	-5.73	-18.51	32.83	342.62	106.06
2064/65	33.71	71.72	1.70	-9.24	2.89	85.98	15.71
2065/66	39.28	90.27	7.27	9.31	52.85	86.68	67.68
2066/67	40.01	118.55	8.00	37.59	64.00	1413.01	300.72
N=5	$\Sigma X = 160 .06$	$\Sigma Y = 404 .78$			$\Sigma x^2 = 278 .68$	$\Sigma y^2 = 2295 .18$	$\Sigma xy = 674 .05$

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{160 .06}{5} = 32 .01$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{404 .78}{5} = 80 .96$$

Now,

$$\text{Correlation } n(r) = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{674 .05}{\sqrt{278 .68} \sqrt{2295 .18}} = 0.84$$

Again,

$$\begin{aligned} P.E. &= 0.6745 \times \frac{1 - r^2}{\sqrt{N}} \\ &= 0.6745 \times \frac{1 - 0.84^2}{\sqrt{5}} \\ &= 0.09 \end{aligned}$$

Source :- Appendix – 1&2

Appendix -6

Calculation of coefficient of correlation Between current Assets (CA) and Gross Profit (GP)

Fiscal Year	CA (X)	GP (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	x^2	y^2	xy
2062/63	20.78	10.17	-11.23	0.31	126.11	0.10	-3.48
2063/64	26.28	4.49	-5.73	-5.37	32.83	28.84	30.77
2064/65	33.71	10.37	1.70	0.51	2.89	0.26	0.87
2065/66	39.28	11.36	7.27	1.50	52.85	2.25	10.91
2066/67	40.01	12.92	8.00	3.06	64.00	9.36	24.48
N=5	$\Sigma X = 160 .06$	$\Sigma Y = 49 .31$			$\Sigma x^2 = 278 .68$	$\Sigma y^2 = 40 .81$	$\Sigma xy = 63 .55$

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{160 .06}{5} = 32 .01$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{49 .31}{5} = 9 .86$$

Now,

$$\text{Correlation } n(r) = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{63 .55}{\sqrt{278 .68} \sqrt{40 .81}} = 0 .60$$

Again,

$$\begin{aligned} P.E. &= 0 .6745 \times \frac{1 - r^2}{\sqrt{N}} \\ &= 0 .6745 \times \frac{1 - 0 .60^2}{\sqrt{5}} \\ &= 0 .19 \end{aligned}$$

Source :- Appendix – 1&2

Appendix -7
Calculation of coefficient of correlation Between current Assets (CA) and Current Liabilities (C.L.)

Fiscal Year	CA (X)	CL (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	x^2	y^2	xy
2062/63	20.78	11.07	-11.23	-3.17	126.11	10.05	35.60
2063/64	26.28	13.96	-5.73	-0.28	32.83	0.08	1.60
2064/65	33.71	15.53	1.70	1.29	2.89	1.66	2.19
2065/66	39.28	14.92	7.27	0.68	52.85	0.46	4.94
2066/67	40.01	15.71	8.00	1.47	64.00	2.16	11.76
N=5	$\Sigma X = 160 .06$	$\Sigma Y = 71 .19$			$\Sigma x^2 = 278 .68$	$\Sigma y^2 = 14 .41$	$\Sigma xy = 56 .10$

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{160 .06}{5} = 32 .01$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{71 .19}{5} = 14 .24$$

Now,

$$\text{Correlation } n(r) = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{56 .10}{\sqrt{278 .68} \sqrt{14 .41}} = 0.89$$

Again,

$$\begin{aligned} P.E. &= 0.6745 \times \frac{1 - r^2}{\sqrt{N}} \\ &= 0.6745 \times \frac{1 - 0.89^2}{\sqrt{5}} \\ &= 0.06 \end{aligned}$$

Source :- Appendix – 1&2