WORKING CAPITAL MANAGEMNET OF DAIRY DEVELOPMENT CORPORATION

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A Thesis Submitted to:
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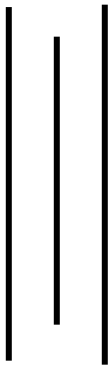

In partial fulfillment of the requirement for the Degree of
Master of Business Studies (M.B.S)

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RECOMMENDATION

This is to certify that the Thesis

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WORKING CAPITAL MANAGEMNET OF DAIRY DEVELOPMENT CORPORATION

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

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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

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DECLARATION

I hereby declare that the work reported in this thesis entitled **"WORKING CAPITAL MANAGEMNET OF DAIRY EVELOPMENT CORPORATION"** 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 Study (M.B.S.) under the supervision of **Professor Dr. Kamal Das Manandhar** and **Dhruba Subedi** of Shanker Dev Campus.

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The purpose of preparing this thesis is to fulfill the requirements for the degree of Master of Business Studies (M.B.S). The main objective of this study is to conduct research on the working capital management of dairy development corporation. All efforts have been made to make this thesis authentic and have tried to show this thesis easy and systematic as far as possible.

I wish to extend my deep sense of indebtedness to my thesis supervisor Professor Dr. Kamal Das Manandhar and Dhruba Subedi of Shanker Dev Campus who provided me valuable guidelines, insightful, comments, encouragement and generous treatment to complete this thesis. This work never has been come out in the present form without his valuable guidelines and suggestions. I could never forget the help of the respondents who provided with valuable information needed for the study. I would, therefore like to express my deep gratitude for their co-operation.

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Pujan Pradhan

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ABBREVIATIONS

%	Percentage
BS	Bikram Sambat
C.V.	Coefficient of Variation
C/M	Contribution Margin
CAFA	Current Assets to Fixed Assets
CAT	Current Assets Turnover
CATA	Current Assets to Total Assets
CBSA	Cash and Bank Balance to Current Assets
CBTA	Cash and Bank Balance to Total Assets
CIT	Citizen Investment Trust
CMPU	Contribution Margin per Unit
CR	Current Ratio
CT	Cash Turnover
DDC	Dairy Development Corporation
FC	Fixed Cost
FY	Fiscal Year
GDP	Gross Domestic Product
GPM	Gross Profit Margin Ratio
i.e.	That is
ICA	Inventory to Current Assets
IT	Inventory Turnover
ITA	Inventories to Total Assets
Ltd.	Limited
MBS	Master of Business Studies
No.	Number
NPM	Net Profit Margin Ratio
NWCT	Net Working Capital Turnover
OR	Operating Ratio
PT	Payable Turnover
Pvt.	Private

RCA	Receivables to Current Assets
RNW	Return on Net Worth
ROA	Return of Total Assets
Rs.	Rupees
RT	Receivable Turnover
RTA	Receivables to Total Assets
RWC	Return on Working Capital
S.N.	Serial Number
T.U.	Tribhuvan University
VC	Variable Cost

CHAPTER-I

INTRODUCTION

1.1 General Background

The term working capital originated with the old Yankee Peddler, who would load up his wagon with goods and then go off on his route to peddle his wares. The merchandise was called working capital because it was what he actually sold, or "turned over", to produce his profits. The wagon and horse were his fixed assets. He generally owned the horse and wagon, so they were financed with 'equity' capital, but he borrowed the funds to buy merchandise. These borrowings were called working capital loans, and they had to be repaid after each trop to demonstrate to the bank that the credit was sound. If the peddler was able to repay this procedure were said to be employing sound banking practices (Brigham et. al; 1996). In general working capital can be defined as the sources of financing current assets which includes inventories (raw materials, work-in-progress, finished goods) receivables, short-term securities, and cash. From the very inceptions of working capital, it behavior occupies an important place in financial management. As financial management has no unique body of knowledge of its own and draws heavily on economics for its theoretical concepts even today, working capital management also naturally draws on the same discipline for its theoretical concepts. When we go far back as to know about the theoretical development concerning working capital management, we find that there has never received so much attention as in recent years. When money cost rise, capital expenditures usually become a primary target for cutbacks, financial manager often overlook the area working capital, where effective cost saving control can be applied. Even in recent years, major theoretical developments have been made with respect to longer-range financial decisions of the firm but research devoted to shorter range or working capital decision making would appear to have been less productive. It shows that earlier emphasis was on to the development of useful theories concerning long-term financial decisions.

The management of working capital has become an extremely important area of financial management policy in recent years, largely because of the major liquidity problems that many business organizations have experienced.

Shortage of funds for working capital as well as the uncontrolled over expansion of working capital has caused many businesses to fail and less severe cases, have stunned their growth. The objective of the working capital is to protect the purchasing power of assets and to maximize return on investment. From a financial perspective there are three crucial areas where decisions directly affect the value of the firm, its investment decision, its financing decision and its working capital decision. Especially in small firms working capital management may be the factor that decides success or failure in larger firm's efficient working capital management can significantly affect the firm's risk, return and share price.

It is a recognized fact that mistakes made in management of working capital can lead to adverse effect that seriously reduce liquidity, turnover and profitability. The management of working capital has been regarded as one of the conditioning factors in the decision making issues. It is no doubt, very difficult to point out as to how much working capital is needed by a particular company but its very essential to analyze and find out solution to make an efficient use of funds for minimizing the risk of loss to attain profit objectives thus the need for skilled working capital management has become greater in recent years.
A business firm needs both long-term and short-term capital for the operation of its business. The long term capital can obtain by issuing securities and borrowing long term load from banks or financial institutions. Similarly it can raise short-term loan from banks or financial institutions. On the other hand, those firms need various types of assets in order to carry out its operation. Some assets are required to meet the need of regular production and these assets can be designed as fixed assets. On the contrary, some assets are required especially to meet day to day expenses and short term obligation and these can be designed as current assets. Such assets are cash, marketable securities, account receivables and inventories. Now the question may arise how much should be invested into fixed assets from short-term funds and how much should be invested into current

assets from long-term funds. Due to these problems the need for developing the appropriate working capital theories has been felt by many practitioners, academicians and researcher.

The component of working capital structure such as cash, marketable securities, account receivables and inventories are interrelated an interdependent to one another. So, if one of them is changed then the whole configuration would be changed. It is only the current assets, which can be adjusted with sales fluctuations in the short run not the fixed assets. Current assets deserve such a greater degree of flexibility. Thus fluctuation in the structure of working capital affects the production schedule, sales and finally profit, too. It means it greatly affects the cost, revenue and risk.

Investment in current assets should just adequate. Not more not less to the need of the firm. Excessive investment in current assets impairs the profitability, as idle investment will lower the rate of return of the firm. On the contrary, inadequate investment in current assets can threaten the solvency position of the firm and will hamper the growth also. However mere availability of financial recourses in terms of working capital does not mean any thing if it cannot be put tot productive use. The inefficient management of working capital will lead to loss of profits in the short run but will ultimately lead to the downfall of the enterprise in the long run. The management of working capital plays an important role in maximizing the value of an enterprise. Efficient management of working capital will contribute to maximizing the firm's values i.e. maximize the present value of common stock. Working capital management is a crucial area where decision directly affects the value of firm.

Cash and marketable securities are respectively pure liquid and highly liquid current assets. But the account receivable is less liquid than both are. Inventory is least liquid among all current assets. Liquidity is an important factor in determining a firm's working capital policy. The most important goal of working capital management is to achieve adequate liquidity for the conduct of day to day operation of business. The management of working capital is synonymous with the management of short-term liquidity.

Regardless of excellent products effective marketing efficient productions and wise fixed assets management, many management has lost the control of its firms because a liquidity crisis resulted in takeover by creditors forced merger or bankruptcy. An excellent long run outlook for a business becomes immaterial if control is lost in the short run. The firm's ongoing liquidity is a function of cash cycle. Ongoing liquidity is influenced by all aspects of the cycle, since increases in purchases; inventory or receivable will decrease liquidity. A decrease in any of three, other things being equal, will increase ongoing liquidity. As cash conversion cycle lengthens, the firm's ongoing liquidity worsens as the cycle shortened; the firm's ongoing liquidity improves.

1.2 Statement of the problem

It is well known that our country is rich in human and natural resources. But many organizations are facing a number of problems due to lack of financial resources. As the capital is shy in it is very essential to utilize the available resources. In this perspective, it will the intellectual deed of Dairy Development Corporation if it can utilize the working capital optimally. This study aims to answering following research problems and attempts to indicate the nature of improvement in working capital utilization of Dairy Development Corporation. The research problems are as follows:

1. Is DDC following a conservative or an aggressive or a moderate working capital policy? Is the followed policy appropriate with reference to risk return trade-off?
2. What is the level or current assets to fixed assets or total assets?
3. What is the composition of current assets? Are there any changes taking place in its configuration?
4. What is the turnover of working capital? Whether the improvement is taking place or not.
5. What is the return of working capital? Is the return sufficient to support working capital requirement in DDC?
6. Is there sound liquidity position in DDC?
7. Is the overall profitability of DDC is satisfactory?

1.3 Objective of the Study

The main objectives of this study are to examine the management of working capital in Dairy Development Corporation. The following specific objectives are also defined to achieve totally integrated objectives of this study.

a. To analysis the current assets and current liabilities of the corporation and their impact and relationship to each other.
b. To understand the accuracy of working capital depending upon the matures, of financing by the current assets or not.
c. To give the main ideas about the importance of working capital management for the corporation progress.

1.4 Need of the Study

In the context of organizations of Nepal, there are a number of sever problems such as negative liquidity, negative return, very poor turnover of inventories, receivables, cash etc. inherent in the management of working capital. Despite of these some other problems like deficiency of basic knowledge of working capital management in organization's managers and government policies towards the investment of short –term fund, also affected the management of working capital in a great deal. Those problems out of others might have caused many organizations to go into liquidity, privatization and even made them absolute failures. To overcome these problems managers or practitioners and related authorities or departments must focus their attention towards the efficient management of working capital. In this perspective, this study made on working capital management of DDC may be the rewarding one. This study will prove to be fruitful not only for DDC gut other private and public organizations of Nepal.

1.5 Limitations of the study

Limitations make a room for every where and this study will also not be exception of it. The following will be the major limitations of this study.

a. This study is not a big research. It is only a study to fulfill partial requirement of MBS as there is time constraint.

b. This study is based on annual data collected basically from the profit and loss account & balance sheet that are made available from the finance department of DDC.
c. This study covers only the 5 years of time period this is from F/Y 059-063.

1.6 Organization of the Study

This study is divided into five major chapters which are as follows.

1. Introduction: The first chapter deals with introduction focus of the study on management of working capital and background information. This also includes the statement problem, objectives of the study, need of the study, significance of the study and chapter scheme.
2. Review of literature: The second chapter deals with related review and available studies that have been made in respect of working capital management. In the course of reviewing the available studies, the conceptual framework has been also developed.
3. Research Methodology: The third chapter describes the research design, sources of data, procedure to be employed and financial and statistical tools to be used for the study.
4. Presentation and analysis of Data: The fourth chapter fulfills the objective of the study by presenting the data and analyzing them with the help of various statistical tools to be followed by methodology.
5. Summary, Conclusion and Recommendation: The fifth chapter present summary, conclusion of the study and suggestion to DDC limited by the way of recommendations.

CHAPTER - II

REVIEW OF LITERATURE

2.1 Introduction

The term working capital management may be defined as the management of current assets and current liabilities. It is the controlling nerve of business upon which success or failure of any enterprises depends. Different management experts and students have undertaken a number of studies, in respect to working capital management of various enterprises. Now in this chapter, the main focus will be on review of literature.

The purpose of this chapter is to provide an insight into working capital management and give a close view of different experts thought regarding the theory of working capital its implications. While reviewing of the related literature of working capital management the researcher has gone through the different financial books, bulletins, documents, reports and journals. This chapter aims at reviewing the available literatures of working capital management.

2.2 Conceptual Review

The conceptual framework of working capital can be stated as follows:-

Generally, financial management decisions are divided into the management of assets (investment) and liabilities (sources of financing) in (I) long term and (II) the short term.

Short term financial management also termed as working capital management, which typically is viewed as the administration of the firm's current assets and the financing needed to support it (Van Horne, 1996). The goal of working capital management is to manage the firm's current assets and current liabilities in such a way that a satisfactory level of working capital is maintained. Investment in current should be just adequate, not excess nor inadequate, to the needs of the business firm. If the firm cannot maintain a satisfactory level of working capital it is likely to become insolvent and may even be forced into bankruptcy (Khan and Jain 1992). A firm's value can not be maximized in the long run unless it survives the short-run. Firms fail most often because they are unable to

meet their working capital needs; consequently, sound working capital management is a requisite for firm survival (Brigham et. al; 1996).

The working capital requirement is the minimum amount of resources that a company requires to effectively cover the usual costs and expenses necessary to operate the business. Since the capital needs of each company will be a little different, there is no ideal working capital requirement that is universally applicable to all businesses, or even to companies engaged in the same industry. However, new companies can develop an idea of what type of working capital requirement they will need to operate at given levels by researching the cost and expenses associated with other corporations engaged in similar operations.

The basic formula for determining working capital involves only two factors. First, it is necessary to define the current liquid assets in the possession of the company. This may be somewhat different from general assets, since the focus is on those resources that can be converted into cash quickly and easily. Liquid assets may be such resources as the outstanding current accounts receivable balance, property that is not directly used in the operation of the business, and balances in various operating accounts.

Along with defining the liquid assets of the company, determining the working capital requirement will also allow for the current liabilities of the corporation. This will include both short-term liabilities, such as the usual and general monthly operating expenses, as well as any long-term debt. By deducting the liabilities from the liquid assets, it is possible to determine the current working capital requirement.

Besides, the next factor is profitability of the corporations. The general idea is to ensure there is enough revenue generated to cover the essential operations of the corporation and allow for additional revenue to be generated in the future. Companies may currently operate with a negative working capital requirement, based on some long-term debt, but this is not necessarily a sign that the company is in financial trouble. However, calculating the current working capital requirement at least once a quarter will allow the

company to spot trends that may indicate problems. For example, if the working capital requirement reveals a higher negative ratio from previous periods even though long-term debt was reduced, this may indicate an issue with decreased sales and earnings or other factors that are causing a lessening of needed capital. In conclusion, liquidity and profitability are the two factors which should be balanced while determining the working capital of the corporations.

2.2.1 Concept and Types of Working Capital

There are two major concepts of working capital – gross working capital and net working capital.

Gross working capital refers to the firm's investment in current assets like cash and marketable securities, receivables and inventories. This concept focuses attention on two aspects of current assets management. (a) Optimal investment in current assets: the investment in current assets should be just adequate, not more not less, to the needs of the firms. The careful planning and control of current assets will make firm able to maximize its return on investment (Walker, 1978). (b) The financing needed support current assets: financing arrangement should be made quickly whenever the need for working capital funds arises. Similarly, surplus funds should be invested in short term securities.

Net working capital refers to the difference between current assets and current liabilities. This concept is helpful in determining the amount and nature of assets that may be used to pay current liabilities. It indicated the liquidity position of the firms. Negative and excess liquidity both are harmful to the firm. A weak liquidity position poses a threat to the solvency of the company and makes it unsafe and unsound. Excessive may impair the profitability of the firm as idle funds earn nothing. This concept is also useful for determining the ability to meet the future operational needs, for judicious mix of long term and short term funds to finance current assets. Every firm needs minimum amount of net working capital, which is permanent. Therefore a portion of the working capital should be financed with permanent sources of funds such as equity share capital, debenture, long term debt, and preference share capital or retained earning. Management

must, therefore, decide the extent to which current assets should be financed with equity capital and/or borrowed capital.

The above mentioned classification is most important to financial management, but it is not completely adequate, since it makes no mention of time. And since the time is vital in the formulation of procurement policies, a second classification alluding to time is necessary. Using time as basis, working capital may be classified as either permanent or temporary.

(i) Permanent working capital: A firm's working capital is the amount of current assets required to meet long-term minimum needs. One might call this "base bones" working capital (Van Horne, 1996) it is the amount of fund required to produce the goods and services necessary to satisfy demand at its lowest point. Such capital possesses the following characteristics. Unlike fixed assets, retain their firm over a long period of time, permanent working capital is constantly changing from one asset to another. The fund of value representing permanent working capital never leaves the business process; therefore, suppliers should not except its return until the business ceased to exist. As long as a firm experiences growth, the size of permanent working capital account will increase.

(ii) Temporary or variable working capital: temporary working capital is the investment in current assets that varies with seasonal requirements (Van Hornce, 1996). This working capital, like permanent working capital, changes its form from cash to inventory to receivable and back to cash but it differs in that it is not always gainfully employed. Businesses that are seasonal and /or cyclical in nature require more temporary working capital than firms that are not so influenced. Therefore, managers should obtain the capital that is temporarily invested in current assets from sources that will allow its return when not in use. If this policy is followed, the turnover of investment will be more favorable, thus permitting a more efficient use of capital. It should be pointed out that although seasonal and cyclical working capital may be obtained from the same source, the contractual terms vary widely.

For example, banks may be principle suppliers of both types, but the charges may be different. The figure 2.1 and 2.2 clarify both temporary and permanent capital.

Figure 2.1

Permanent and Temporary Working Capital

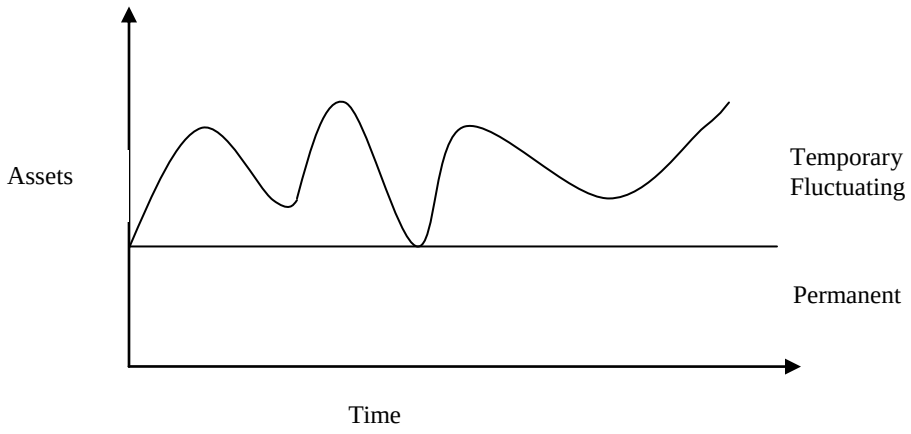
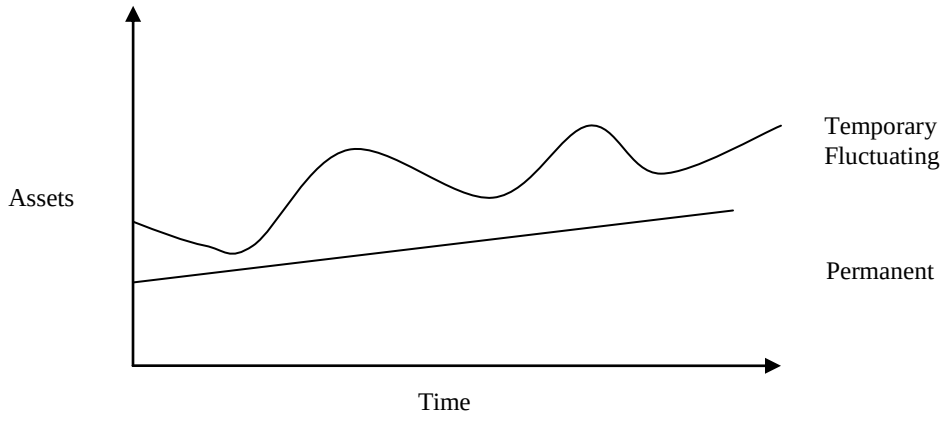


Figure 2.2

Permanent and Temporary Working Capital



2.2.2 Goals of Working Capital (Hampton, 1998)

The firm's policies for managing its working capital should be designed to achieve three goals:

Adequate liquidity: if a firm lacks sufficient cash to pay its bill when due, it will experience continuing problems. The most important goal is to achieve adequate liquidity for t he conducts of day to day operations.

Maximization of Risk: In selecting its sources of financing, payable and other short-term liabilities may involve relatively low cost. The firm must ensure that these near term obligations do not become expensive compared to the current assets on hand to pay them. The matching of assets and liabilities among current accounts is a task of minimizing the risk of being unable to pay bills and other obligations.

Contribute to maximizing firm's value: The firm hold working capital for the same purpose as it holds any other assets that are to maximize the present value of common stock and value of the firm. It should not hold idle current assets any more than it should have idle fixed assets. The investment of excess cash, minimizing of inventories, speedy collection of receivable, and elimination of unnecessary and costly short-term financing all contribute to maximize the value.

2.2.3 The Importance of Working Capital

Some of the more significant reasons why working capital management is important are as follows:

1. The size and volatility of working capital make it a major managerial concern. Managers spend much of their time on day-to-day activities that revolve around working capital management.
2. The relationship between sales growth and working capital is both close and direct. As sales increase, firm must increase inventory and account payable. Increased sales generate a higher level of account receivable. So working capital must be

managed as firms increase or decrease their scale of operation and sales. At the same time. Some of the current liabilities- especially account payable tends to increase and decrease spontaneously as inventory as inventory and account receivable increase and decrease. This spontaneous short-term financing (due to use of trade credit) must be kept in mind as we consider both the current assets their financing (by both current and long-term sources)

3. The firms well being shows up first in its working capital accounts, especially its level of accounts receivable, inventory and the flow of cash into and out of the firm. Firms that are doing well maintain control of their accounts receivable and inventory and ensure the continual flow of cash
4. Working capital especially important for smaller firms since they often carry a higher percentage of both current assets and current liabilities. Their survival is much more dependent on effective working capital management than that of larger firms.

2.2.4 Determinants of Working Capital

A large number of factors each having a different importance, influence working capital needs of firms. They also vary from time to time. Therefore and analysis of relevant factors should be made in order to determine total investment in working capital.

Nature of Business

This is the nature of business, which influence the requirement of working capital. Trade and financial firms require a large sum of money to be invested in working capital. In contrast, public utilities need very limited volume of working capital. Working capital requires most of the manufacturing concerns to fall between the two extreme requirement of trading firms and public utilities. Such concerns have to make adequate investment in current assets depending upon the total assets structure and other variable.

Production Cycle or Manufacturing Cycle

It covers the time span between the procurement of raw materials and the completion of manufacturing process leading to the production of finished goods. To sustain such activities the need for working capital is obvious. The longer the manufacturing cycle, the larger will be the funds tied up and therefore the larger the working capital needed and vice-versa.

Business Cycle

Requirement of working capital fluctuation due to boom condition and decline condition of business. During the upswing of business activity the need for working capital is likely to grow but in recession it is bout to decline.

Credit Policy

The credit policy influences the requirement of working capital in two ways i.e. through credit terms generated by the firm to its customers/ buyers of goods and credit terms available to the firm from its creditors. The liberal credit terms will result in higher receivable, which mean the more amounts of working capital will be required. On the contrary, if the liberal credit terms are available from the suppliers of goods, the need for working capital will be less. Similarly if funds are readily available from financial institutions and banks on short term basis, the requirement of working capital will be less.

Growth and Expansion

It is logical to expect that a larger amount of working capital will be required as a company grows. Higher the volume of activities the higher the needs of working capital and vice-versa.

Price Level Changes

Changes in the price level also affect the requirements of working capital. Rising prices would necessitate the use of more funds for maintaining an existing level of activity. The effect of rising prices will be that a higher amount for working capital will be needed.

Operating Efficiency

Management can ensure the efficient utilization of resources by eliminating waste, improving co-ordination and a fuller utilization of existing resources.

Efficiency of operation accelerates that pace of the cash cycle and improves the working capital turnover. It releases the pressure on working capital by improving profitability and improving the internal generation of funds. Therefore, higher the operation efficiency lower will be working capital and vice-versa.

Profit Margin

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

Level of Taxes

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

Others

Factors such as coordination between production and distribution activities, conservative dividend policy as well as liberal depreciation policy strengthens the working capital position the enterprise.

2.2.5 Financing of Working Capital

Every industry/company requires additional assets whether they are in stable or growing conditions. When growing firm wants to generate sustained normally required fixed capital as well as working capital. Additional portion of working capital is approximately dominated by the same rate as sales. But this portion of capital requirement depends upon the nature of the firm. Therefore the most important function of financial manager is to determine the level of working capital and to decide how it is to be financed. Financing of any assets is concerned with two major factors cost and risks. Therefore, the financial manager must determine an appropriate financing mix, or decide how current liabilities should be used to finance current assets. However, a number of financing mixes are available to the financial manager. He can resort generally three kinds of financing.

i. Long term financing
ii. Short term financing
iii. Spontaneous financing

i. Long Term Financing

Long term financing has high liquidity and low profitability. Ordinary share, debenture, preference share, retained earning and long tern debt from financial institution are the major sources of long term financing.

ii. Short Term Financing

Firms must arrange short term credit in advance. The source of short term financing of working capital are trade and bank borrowing.

Trade Credit

It refers to the credit that a customer gets from suppliers of goods in the normal curse of business. The buying firms have not to pay cash immediately for the purchase is called trade credit. It is mostly an informal arrangement and it granted on an open account basis. Another form of trade credit is bills payable. It depends upon the term of trade credit.

Bank Credit

Bank credit is the primary institutional sources for working capital financing. For the purpose of bank credit, amount of working capital requirement has to be estimated by the borrowers and banks are approached with the necessary supporting date. After available of this data, bank determines the maximum credit based on the margin requirement of the security. The following types of loan provided by commercial banks

Loan Arrangement

Under this arrangement the entire amount of load is credited by the bank to the borrowers account and the loan is repaid in installments, interest is payable on actual balance outstanding.

Overdraft Arrangement

Under this arrangement the borrowers is allowed to overdraw on his current account with the bank up to a stipulated limit. Within this limit any numbers of drawings are permitted. Repayments should be made in short period.

Commercial Papers

Only well established high quality companies use it. The evidence of debts is an unsecured short term promissory note sold in the money market. It is sold either through dealers or directly to inventors. Besides the above form of credit, banks provide load against the warehouse receipt, inventory, and receivable. In our context, most popular sources of short term financing are short term load from commercial bank and other financial institutions. Short term load from public deposit is also a major source of working capital financing in our country.

III. Spontaneous Financing

Spontaneous financing arise from the normal operation of the firms. The two major sources of such financing re-trade credit (i.e. credit and bills payable) and accruals. Whether trade credit is free of cost or not actually depends upon the terms of trade credit. Financial manger of the firm would like to finance its working capital with spontaneous

sources as much as possible. In practical aspect, the real choice of current assets financing is either short term or long term sources. Thus the financial manager concentrates his power in short term versus long term financing. Hence the financing of working capital depends upon the working capital policy which is perfectly dominated bye the management attitude towards the risk return.

2.2.6 Approaches to Working Capital Financing Policy

Keeping in view the nature the components the theory and the dimension of management of working capital, some authors have developed following approaches.

Approach 1: Aggressive Approach

This approach suggests that a) major part of total current assets investment is financed by short-term sources and b) a part of fixed assets investment is also financed by short-term sources. When there is larger the ratio of short term funds to total investment in assets (fixed plus current assets), the more the aggressive approach to financing there is.

Characteristics of this approach

1. low level of current assets but effectively and aggressively managed
2. short cash conversion cycle
3. lower expenses / relatively lower cost of financing and higher revenue leading higher EBIT
4. higher risk
5. higher profitability
6. high level of current liabilities

It implication would be explained with the help of Table 1 which shows a hypothetical Firm's requirement of funds.

Table 2.1

A Hypothetical Firms Requirement of Funds

(In thousand rupees)

Month	Current assets	Fixed assets	Total funds requirement	Permanent funds	Seasonal fund
January	5	11	16	12	4
February	4	11	15	12	3
March	2	11	13	12	1
April	1	11	12	12	0
May	3	11	14	12	2
June	2	11	13	12	1
July	3	11	14	12	2
August	2	11	13	12	1
September	4	11	15	12	3
October	5	11	16	12	4
November	3	11	14	12	2
December	2	11	13	12	1
Average				12	2

Note: The monthly average seasonal requirement is Rs. 2,000 and average permanent requirement of funds is Rs.12,000

Assumption: Interest Rate on short-term fund is 5% and on long-term fund is 15% (generally interest rate of short term fund is lower than long-term fund)

Since the net working capital is at a lower level (Rs.1000) as compared to conservative and moderate approaches there is higher risk than other to be technically insolvent the profitability under this approach would also be high as the cost of funds is low i.e.

This comes from the following calculation.

Cost of short-term funds: 5/100*2,000 = Rs 100

Cost of Long-term funds: 15/100*12000 = Rs 1,800

Total = Rs1,900

Approach 2: Conservative Approach

This approach prescribe that

a) As far as possible investment in current assets should be financed by funds form long-term sources.
b) Only in emergency situation when suddenly when current assets are to be increased, short-term borrowing should be used. In other words predictable variable investment in current assets should also be financed by long-term sources

Characteristics of this approach are

1. High level of current assets/liquidity is relatively greater
2. Long Cash conversion cycle
3. Higher expenses/cost of financing is relatively more and lower revenue leading to lower EBIT
4. Lower risk
5. Lower require return
6. Low level of current liabilities

The cost total funds under this approach would go up to Rs. 2,400 i.e. 15% of Rs.16,000 (max. requirement) as compared to total cost of Rs.1,900 under first approach. The reason for such increment in the total cost is that the enterprise has to keep on paying interest on money that is not actually need. Thus higher cost lower profitability. As there would be highest net working capital among three approaches. i.e. Rs. 6,000 the liquidity would be high and risk would be low.

Approach 3: Hedging Approach

With the Hedging approach, short term or seasonal variation in current assets would be financed with short term debt. The permanent component of current assets would be financed with long-term debt or equity (Van Horne, 1996). This approach suggests that:

(a) Variable working capital requirement should be financed with short term loans.
(b) Permanent working capital requirement should be financed with funds from long-term sources.

(c) Fixed assets should be financed with funds from long-term sources.

This approach is neither too risky, as in the first approach, nor least risk, as in the second approach. This approach aims at achieving a trade-off between profitability and liquidity. However, the actual trade-off in real life would depend upon management's capability to take risk

In the above example required average fund is Rs. 14,000 i.e. (16,000+12,000)/2. This is to indicate that the enterprise will use long-term funds to the extent of Rs 14,000 and the remaining funds will be met through short-term sources. The funds to be acquired through short-term source would be the total funds requirement less Rs. 14,000 for each month as shown in table 2

The total cost of funds in this approach would be as below:

Cost of short-term funds: 5/100*6,000/12 = Rs. 25

Cost of long-term funds: 15/100*14,000 = Rs. 2,100

Total = Rs. 2,125

The total cost lies in between the total cost figure under approach 1 and 2. Thus this approach will have moderate profitability. The net working capital in this approach would be Rs. 3,000 i.e. Rs. 14,000 less Rs. 11,000 which lie in between the figures for net working capital under approach 1 and 2. Thus, this approach indicates a moderate risk.

Table 2.2

Requirement of Short-term Funds Under Moderate Approach

(In thousand rupees)

Month	Total funds requirement	Long-term Funds	Short-term Funds
January	16	14	2
February	15	14	1
March	13	14	-
April	12	14	-
May	14	14	-
June	13	14	-
July	14	14	-
August	13	14	-
September	15	14	1
October	16	14	2
November	14	14	-
December	13	14	-
Total			6

Comparison of Aggressive, Conservative and Hedging Approach.

These approaches to working capital financing can be compared on the basis of

a) Cost consideration b) profitability c) risk consideration.

The following statement gives

a) Comparative Evaluation.

Table 2.3

Comparative Evaluation of Financing Approaches

Financing Approach	**Cost**	**Risk**	**Profitability**	**Liquidity Peak NWC**
Aggressive	Low (Rs.19,000)	High	High	Rs.1,000
Conservative	High (Rs.24,00)	Low	Low	Rs. 6000
Hedging	Moderate(Rs.2125)	Moderate	Moderate	Rs.3000

From the above discussion, it is clear that higher the liquidity, lower the risk leading lower profitability and vice-versa. Working capital management, therefore, ultimately aims at achieving some soft of a risk return trade-off.

2.3 Review of Related Studies

Prof. Dr. Manohar Krishna Shrestha (1983) has made a study on "Working Capital Management in public Enterprises. A case study on Financial Results and constraints". In his study ten public enterprises have been taken in to account for the analysis. In the study he has stated that in public enterprises working capital management is important at least for four reasons. Firstly. Public enterprises working capital management is important at least for four reasons. Firstly, public enterprises must determine the adequacy of investment in current assets otherwise it would seriously erode their liquidity position. Secondly they must select the type of current assets suitable for investment so as to raise their operative efficiency. Thirdly, they are required to ascertain the turnover of current assets that greatly determine the profitability of public enterprises. Lastly they must find out the appropriate sources of fun used to finance current asset. Due to these quite obvious reasons he has argued that mistakes reduce the liquidity turnover, and profitability of public enterprise. At the very outset he has pointed out that "there is a growing tendency among public enterprise managers to neglect the vital part of the working capital management. Although working capital management is so much important yet mistakes are being committed frequently by public enterprises managers in its management.

He has found through many studies and reports that mangers often lack basic knowledge of working capital and its overall impact on the operating efficiency and financial viability of public enterprises. So he has clearly stated that deficiency of knowledge about working capital concepts has often brought a lot of liquidity crisis which could have be avoided in the presence of knowledge among public enterprise mangers.

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

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

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

1. Public enterprises must forecast needed funds by observing the operating activities to support their sales efforts. Changes in the operations of public enterprises have immediate effects on working capital needed. For undertaking this function, public enterprises should have as separate financial forecasting department manned by person well versed in financial discipline.
2. The managers of public enterprises should make regular checks to identify both excess and deficient current assets wherever possible. This helps a lot to above tax management of working capital. As for instance, ratio analysis and funds flow analysis can be employed to locate deviations and thereby take steps to improve them.
3. Public enterprises should develop appropriate information system by preparing timely reports. However the cost of acquiring information should be reasonable and whatever information collected must enable public enterprises to accomplish effective management of working capital.

4. The public enterprise manages should develop a positive attitude toward risk and profits. This can be accomplished only by maintaining proper amount of working capital. They can lower risk if they are in a position to keep extra cash for overcoming the risks of liquidity deficiencies. Moreover, public enterprises can gain at all the times full profits from operations by keeping an absolute minimum amount of working capital.
5. There is an absolute need of public enterprises to finance current assets from the appropriate combination of short and long term sources. Matching an item of working capital to single, specific sources must be carefully done.

Dr. Radhe Shyam Pradhan (1986) has also made a research on the management of working capital in nine selected manufacturing public enterprises of Nepal. In his study he stated the problem such as what type of policy is being followed by the selected enterprises. Whether they are capable to pay their current debtors or not. Similarly he stated that what sort of structure of working capital is there in selected enterprises. Whether the improvement in working capital utilization has taken place or not. And transactions demand for working capital and its various components varies proportionally or less that in proportion of changes in their volume of sales are also the issues of this study.

The major objective of his study is to examine the behaviors and management of working capital in manufacturing public enterprises of Nepal. But at the same time some specific objectives are also aimed to achieve in his study. These are a) to conduct risk return analysis of working capital position, b) to assess the financial position of the enterprises, c) to determine the structure and utilization of working capital, d) to estimate transactions demand function of working capital and its various components.

The aim of his study is not to develop any theory other than just to have support to examine the underlying financing policy in the selected enterprises. For this he has gone through different studies which are made toward the development of the theory of working capital management by different research scholars. In his study he employed

ratio analysis, the discriminate analysis and econometric models as the tools for analysis the available data to reach the goal of the study. He has involved only ten years financial data of concerned enterprises. These data are of F/Y 1973-1982. The available data have included the financial statement like Profit and Loss a/c and Balance Sheet only. The finding and conclusions of the study are as follows:

1. Most of the selected enterprises have been achieving a trade off between risk and return, thereby following neither and aggressive nor a conservative approach.
2. Almost all the selected enterprises have a positive net working capital. The negative net working capital has been observed in a few cases that are of bricks and tile factory and Nepal Tea Development Corporation. Much of the growth in net working capital may however be attributed inflation as the growth in net working capital at deflated prices has been much lower.
3. The excess of current liabilities over quick assets shows lack of capability to pay current debts from quick assets.
4. Most of the selected enterprises have current ratios of greater than 2 except brick and tile factory. However current ratio have declined slowly and steadily over a period of time in the majority selected enterprises.
5. The majority of selected enterprises have quick ratios of greater than one; however these ratios have declined over a period of time.
6. Though most of the enterprises have poor liquidity position, they may still be considered good if the enterprises can generate cash flow sufficient to pay their current debts.
7. The Nepalese manufacturing public enterprises have, on average half of their total assets in the form of current assets.
8. Of all the different component of current assets the share of inventories in total assets on an average is the largest followed by receivables and cash in most of the selected enterprises.
9. Since the inventory occupies a major share in current assets and its share has increased overtime, Nepalese public enterprises should pay more attention to management of inventories. The largest and increasing share inventories those current assets seen to have become less liquid.

10. the turnover ratio shows that there has been improvement in utilization of current assets by the majority of manufacturing public enterprises of Nepal but this is not the case with net working capital utilization
11. The regression result shows that the level of working capital and its components and enterprises desires to hold depend not only on sales but on holding costs also.

The researcher has gone through some thesis related to working capital management in the context of Nepalese Public enterprises.

Sheela Yadav (2007) has conducted the research on "working capital management of listed hotels in Nepal Stock Exchange". She has used financial as well as statistical tools to analyze the financial data of 2000 to 2005.She has also used primary and secondary sources of data. The main objective of this study is to appraise the working capital management of listed hotels and to find out the relationship between the different variables of working capital .The major findings of her study are:

1. Yak & Yeti, Oriental and Soaltee Crowne Plaza are suffering from excess of current assets over the current liabilities.
2. Oriental has good inventory management in comparison to both hotels.
3. Yak & Yeti has followed conservative financing policy where as Soaltee and Oriental have followed aggressive financing policy.
4. The liquidity and profitability position of all selected hotels is satisfactory.
5. Oriental has able to collect debt on time rest two has difficulty to collect their debt on time.
6. Receivable and inventory conversion period are relatively short than the payable deferral period it indicates they have got long credit period from its creditors.
7. The relationship between current assets and current liability, current assets and net working capital, net profit and net working capital are found negative and receivables and net sales are positive of all selected hotels.
8. From the primary information, it has also found that Oriental and Yak &Yeti are not implying any credit standard policy and credit payable policy.

9. In the view of Oriental and Yak & Yeti good financing planning is important to make better working capital management system.

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

Purushottam Gautam (2004) has conducted the research on "Working capital management of Soaltee Crowne Plaza". This Study has covered the period of five years (1998/99 to 2002/03).For the analysis of working capital he has used different financial and statistical tools like ratio analysis, trend analysis, standard deviation and regression analysis. The main objective of his study is to examine working capital practice and profitability position of Soaltee Crown Plaza. The major finds of his study are as given below:

1. The major components of the current assets in Soaltee Crown Plaza are receivable, inventories, cash prepaid etc. Among the total current assets, receivable occupied highest than other components in each of the study periods.
2. After receivable, the inventory occupied nearly one-third of current assets.
3. The portion of current assets to total assets is nearly consistent. The company has low investment in current assets.
4. The fluctuating cash turnover implies that the Soaltee Crown Plaza is inefficient in cash management.
5. The receivable turnover is more consistent.
6. The utilization of current assets becomes unsatisfactory.
7. The current ratio of Soaltee Crown Plaza is in very poor condition because the current asset is less than the current liabilities in each year of the study period. Comparing with standard ratio the calculated current ratio becomes too small. Therefore, the liquidity position of the company is not satisfactory. Quick assets are

pure liquid in nature, but the calculated ratio shows the liquid is insufficient to pay its current payable as its ratio is below standard.

8. Company is loosing its ability in respect with investment policy because in the proceeding year it has positive return whereas in the later year it has negative return.
9. The large portion of current liabilities of Soaltee Crowne Plaza belongs to the advance rent, which is the best source for current assets financing.
10. Company has followed conservative policy of financing.
11. The overall cash conversion of the study period is in negative, which seems to be very satisfactory for short period but in long run, it will deteriorate the credit worthiness of the company. Firm should not get the credit due to the company delay in paying obligations.

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

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

Mr. Deependra Raj Sharma (1999) has made a research on working capital management of Nepal Battery Company Limited (NBCL), Nepal. In his study, basically he analyzed financial statements i.e. P/L a/c and Balance Sheet for fiscal years (049/50 to 053/54).
To analyze the available data he sued ratio analysis as a financial tool and Karl Pearson coefficient for testing relationship between variables of working capital. He found in

course of study that NBCL is able to maintain profitability but still its working capital management is poor. He stated that the company's inventory management and receivable management are poorly managed. The excess inventory and idle investment in receivables blocked its capital in them. This is also the reason for poor turnover, which reduced the profit of the company. Similarly, higher operating expenses also caused the company to lessen its profit. Although the company's cash balance is in decreasing trend. It could be able to maintain its liquidity. The investment of excess cash on short-term government bonds is one of the classics initiatives of efficient working capital management. Cash conversion cycle is also better. He recommends that the company should be attentive to formulate efficient inventory management policy, production policy and credit policy, Receivable policy and better utilization of other assets.

Mr. Basudev Giri (1996) studied in working capital management in birgunj sugar factory Limited (BSFL). He used ratio analysis as tools for the purpose of analyzing working capital management in BSFL. He found that as a manufacturing public enterprise BSFL followed an approach, which neither aggressive nor conservative. The amount of current assets with respect to total assets was in fluctuating trend during the period of study from 046/047 to 050-051. The inventory holds the major part of current assets and indicated the inefficient management in inventory. The decreasing and fluctuating trend of various turnover indicated that current assets were not properly utilized in the factory during the period of study. The net profit in regards to total assets was not quite satisfactory. The large volume of idle cash balance has contributed for the lower return on working capital. He recommended for the use of proper inventory mode. The idle cash balance should be invested as short term securities with maximize the profit.

On the topic of Balaju Textile Limited (BTIL), a research has been made by Mr. Rajendra Giri(1986) In the study, profit and loss a/c and balance sheet of BTIL for five fiscal years i.e. 036/037 to 040/041 have been taken for analysis. In his research he used ratio analysis and funds flow statement and comparative analysis as financial tools and percentage change, index and mean value used as statistical tools. In his study the findings are I) the company has been bearing heavy loss for years due to low utilization

of plant capacity and inefficient management ii) unnecessarily blockage of working capital in inventories iii) poor liquidity position iv) net working capital has been financed with equity capital and sale of fixed assets v) poor turnover position. On the basis of his findings he recommended BTIL to regular checks up identify both excess and inefficient current assets to finance current assets from the appropriate combination of short term and long term sources, to avoid and control misutilization of inventory. Similarly he suggested to formulate suitable production policy, pricing policy and to stop the practice of transferring executives on deputation.

Mr. Arjun Lal Joshi (1986) also has made a study on working capital management in biratnagar jute mills Ltd. In his study he has taken five fiscal years data out of financial statements via profit and loss a/c and Balance Sheet. His study focused on to know the size of investment in each type of working capital, how the current assets affected by current liabilities which current assets is more problematic, situation of liquidity and profitability, turnover position and the effect of short term borrowings on profitability. In his study he found that the major share of current assets as been occupied by inventories. This less rationally and judiciously investment on inventories cause the capital blocking idle. Inconsistent and poor turnover of cash and receivable are also found in his study. The company profitability is also very poor. It may be due to the inefficient utilization of current assets and current liabilities. On the basis of above findings his recommendations are: to plan realistic turnover target specimen, to design effective inventory management program, to follow productive investment approach, to prepare effective sales plan to use short-term bank credit unto certain reasonable limit and to maintain optimum cash balance.

2.4 Research Gap

All the above studies are concerned with the research title "working capital management". Some researchers have selected various manufacturing companies for the research and some have concentrated in only one company. Nevertheless, most of studies have been concerned with privet limited manufacturing organization. There is very limited study on government sectors with reference to working capital management. The

most of the studies have been used financial tools and secondary data. They have only included summary, findings and conclusion in their study but not recommend concrete suggestions to solve the findings problems.

There is limited study of working capital management of government organizations. Thus, to fill up the gap, researcher have been conducted this research topic through light on working capital position and to suggest the possible measures for the betterment and welfare of the trading sectors. Researcher have used financial as well as statistical tools like ratio analysis, cash conversion cycle, mean, standard deviation, coefficient of correlation, probable error, regression analysis and primary tools. Almost all the ratios have been applied to cover the analytical part and fulfill the objectives of this study.

CHAPTER -III

RESEARCH METHODOLOGY

3.1 Introduction

The basic objective of this study as described in the introductory chapter is to examine the management of working capital in DDC. To achieve the above-mentioned objective this chapter has focused on research design, procedure employed, nature and sources of data, financial and statistical tools used for analysis.

3.2 Research Design

Research design is prepared to facilitate this research to be as efficient as possible yielding maximal information and for ascertaining the basic objectives of the study. Under the objectives as stated in chapter one, this study has made efforts to make comparison and to establish relationship between two or more variables. Thus the research design of this study is based upon descriptive, informative and analytical study. Attempts have been made to describe and explore the composition of working capital, turnover position, liquidity position and profitability position of DDC.

3.3 Nature and Sources of Data

The data used in this study are basically secondary in nature. The secondary data has been collected from financial statement, reports and official records of DDC.

3.4 Data Processing Procedure

The study is mainly based on secondary data. The main secondary data are audited balance sheet and profit and loss a/c of DDC. All these secondary data and information are properly arranged, tabulated calculated and represented in accordance with the requirement of the study.

3.5 Financial and Statistical Tools Used

Various financial ratios are applied to analyze the effectiveness of composition of working capital, turnover, liquidity and profitability position. To make the tabulated data

more clear and meaningful, to avoid confusions the pie chart, bar charts are used. Similarly to establish the relationship between different variables the Karl Pearson coefficient of correlation and regression also been used. These tools will bring out some sort of vital results which might be useful to make rational decision by the company itself and other related and interested parties to their respective requirement or interests.

3.5.1 Composition of Financial Ratios

1. Current Assets to Total Assets (CATA)

The ratio of current assets to total assets indicates what percentage of company's total assets is invested in the form of current assets it is calculated as:

$$\text{CATA} = \frac{CurrentAssets}{TotalAssets} \times 100$$

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

2. Current Assets to fixed Assets (CAFA)

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

$$\text{CAFA} = \frac{currentAssets}{FixedAssets} \times 100$$

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

3. Inventories to Total Assets (ITA)

The ratio can be calculated as:

$$\text{ITA} = \frac{Inventory}{TotalAssets} \times 100$$

The ratio indicates the percentage of total assets invested in the form of inventories. Inventory is a part of working capital. Os if the percentage increased the working capital automatically increase. The increase in the ratio also indicates liberal inventory policy or blocking of material stock.

4. Ratio of Inventory to Current Assets (ICA)

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

$$\text{ICA}= \frac{Inventory}{CurrentAssets}\times 100$$

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

5. Ratio of Cash and Bank Balance to Current Assets (CBSA)

It is calculated as:

$$\textbf{CBSA}=\frac{Cash\ \&\ BankBalance}{CurrentAssets}\times 100$$

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

6. Ratio of Cash and Bank Balance to Total Assets (CBTA)

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

$$\text{CBTA}=\frac{Cash\ \&\ BankBalance}{TotalAssets}\times 100$$

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

7. Ratio of Receivables to Total Assets (RTA)

The ratio can be calculated as:

$$\text{RTA} = \frac{\text{Re}\,ceivables}{TotalAssets} \times 100$$

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

8. Ratio of Receivables to Current Assets (RCA)

The ratio indicated the share of receivables on current assets and is derived as:

$$\text{RCA} = \frac{\text{Re}\,ceivables}{CurrentAssets} \times 100$$

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

3.5.2 Turnover Position

By analyzing the various turnover ratios, the factory turnover position can be known. The turnover ratios are:

1. Current Assets Turnover (CAT)

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

$$\text{CAT} = \frac{Sales}{currentAssets}$$

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

2. Net Working Capital Turnover (NWCT)

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

$$\text{NWCT} = \frac{Sales}{NetWorkingCapital}$$

3. Cash Turnover (CT)

It is computed by dividing sales by cash balance and tit measures the speed with which cash moves through an enterprise's operations.

$$\text{CT} = \frac{Sales}{CashBalancæ}$$

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

4. Receivable Turnover (RT)

The ratio is computed by dividing sales by the total amount of receivables.

$$RT = \frac{Sales}{\text{Re}ceivables}$$

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

For the complimentary for the ratio, there is a ratio called average collection period (ACP) which indicated the number of days it takes on an average to collect account receivables. It is computed by dividing days in a year by receivables turnover.

$$\text{ACP} = \frac{Days\ in\ a\ year}{\text{Re}ceivable\ Turnover}$$

5. Inventory Turnover (IT)

It is computed by dividing Cost of good sold by Inventory

$$\text{IT} = \frac{\text{Cost of Good Sold}}{Inventory} \quad \text{or} \quad \frac{Sales}{Inventory}$$

The Ratio shows the number of times inventory is replaced during the year. Higher the inventory turnover indicates the good inventory management and lower turnover suggest the management should manage its inventory properly.

How long it takes to convert the inventory into receivable or cash? To know about it there is inventory conversion period ratio as complementary tools. Which is computed by way of dividing 365 days by inventory turnover? (IT)

6. Payable Turnover

It is computed as the following way:

$$\text{PT} = \frac{Cost\ of\ \ good\ sold - Gen..selling\ and\ admistrative\ \text{exp}.}{account\ payable - salaries, benefits\ and\ \ payroll\ tax\ payable}$$

This ratio shows the number of times payable is made during the year. Higher turnover indicates lower the working capital or lower liquidity as cash goes outside the company and vice versa.

To know how long payable may be deferred there is a payable deferral period ratio. Which can be calculated by way of dividing 365 days by payable turnover.

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

3.5.3 Liquidity Position

1. Current Ratio (CR)

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

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

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

2. Quick ratio or Acid-Test Ratio (QR)

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

$$QR = \frac{Quick\ Assets}{Current\ liabilities}$$

As the quick assets don't include the amount invested in the inventory it is reliable to measure the company's liquidity. Generally the quick ratio of 1:1 of the company is considered to be sound.

3.5.4 Profitability position

Profitability is measure of efficiency and the search of its provides and incentive to achieve efficiency. The profitability position of the company is analyzed with the help of following ratios:

1. Gross Profit Margin Ratio (GPM)

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

$$\text{GPM} = \frac{\text{Gross profit}}{\text{Sales}}$$

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

2. Net Profit Margin Ratio (NPM)

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

$$\text{NPM} = \frac{\text{Net Profit after tax}}{\text{sales}} \times 100$$

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

3. Operating Ration (OR):

The operating ratio is an important ratio that explains the changes in the net profit margin ratio. This ratio is computed by dividing all operating expenses by sales.

$$\text{OR} = \frac{\text{Cost of Good Sold} + \text{Operating expenses}}{\text{Sales}} \times 100$$

Higher ratio indicated the lower efficiency of the company and vice versa higher operation ratio means small amount of operating income to meet interest, dividends etc.

4. Return of Total Assets (ROA)

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

$$\text{ROA} = \frac{\text{Net Profit After Tax}}{\text{Total Sales}} \times 100$$

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

5. Return on Working Capital (RWC):

It is computed by dividing net profit after tax by current assets or working capital. It is measures the profit with respect to current assets.

$$\text{RWC} = \frac{\text{Net Profit after Tax}}{\text{Current Assets}} \times 100$$

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

6. Return on Net worth (RNW)

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

$$\text{RNW} = \frac{\text{Net Profit after tax}}{\text{Net Worth}} \times 100$$

It indicates the return to the shareholder. How well the firm has used the resources of the workers. It judges whether the firm has earned of satisfactory return for its share holders or not. Higher the ratio higher the return to share holders and vice-versa.

3.6 Key Terms Used in This Chapter

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

1. Current Assets

It indicated the cash and bank balance and those other assets which can be converted into cash within a year such as: inventory, debtors or receivables, advances employees, deposits, prepaid expenses, accrued income and other miscellaneous current assets.

2. Current Liabilities

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

3. Working Capital

The term working capital here refers to the gross working capital. It includes the total volume of current assets. Which are discussed on point 1.

4. Net Working Capital

The term Net working capital refers to the difference between the company's current assets and current liabilities.

5. Fixed Assets

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

6. Total Assets

It includes the total of current assets, net fixed assets and miscellaneous assets.

7. Cash and Bank Balance

It includes the cash in hand and cash at bank

8. Receivables

It includes the Trade debtors and other debtors.

9. Inventory

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

10. Net Worth

It includes the paid up capital, general reserve, capital reserve, capitalize subsidy, retained earning.

3.7 Statistical Tools

In this research study some statistical tools are used for analysis. The tools are as follows.

a) Correlation Analysis

Correlation is the statistical tools that we can use to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Person's method is applied in the study. The result of coefficient of correlation is always between +1 and -1 when r is +1, it means there is perfect relationship between two variables and vice versa. When r is 0, it means there is no relationship between two variables.

The Karl Pearson's Formula is

$\overline{X} = \frac{\sum X}{N}$ (Mean of x variable)

$\overline{Y} = \frac{\sum Y}{N}$ (Mean of y variable)

$$rxy = \frac{\sum XY}{\sqrt{\sum x^2 \sum y2}}$$

Where, r = Karl Pearson's correlation coefficient.

Probable Error

$$PEr = 0.6745 \times \frac{1-r^2}{\sqrt{N}}$$

Per = Probable error of correlation coefficient.

N = Number of pairs of observations

Where,

r < Per the value of r is not significant at all i.e. there is no evidence of correlation.

r > 6Per the value of n significant i.e. practically the correlation is certain

b) Regression Analysis

Regression is one of the most powerful tools of statistics, which being used in the estimation of value and strength of relationship between two or more variables. Thus, it is a statistical device, with the help of which, we can estimate or predict the value of one variable when the value of other variable (s) is known. The unknown variable that we have to predict is called dependent variable and the variable(s) whose value is known is called dependent variable(s). In this study we have used simple linear regression and multiple regression analysis.

$Y = a + bx$

Where,

Y is the dependent variable,

X is independent variable and

a and b are constant parametric value.

CHAPTER -IV

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This analysis is focused on the extent to which DDC has managed its working capital during 5 years study period (2059 to 2063). For the purpose of evaluation, the necessary financial facts and figures as well as descriptive information are gathered through the financial statements and questionnaire. The major variables taken into account for the study are return on net working capital (RONWC), liquidity (CA/CL), Turnover of current Assets (S/CA), Turnover of Total assets (S/TA), Profitability of Total assets (NPAT/TA).

In this, chapter, available financial data are presented in necessary form and analyzed with the help of financial and statistical tools. The financing approach, which is adopted by DDC has been determined at first then position of current assets and compositions of working capital are consecutively analyzed along with their individual constituents.

4.2 Position of Current Assets

The day to day operation of business depends upon current assets, which includes cash & bank balance, book debts or receivables, inventory, marketable securities and advance deposits. As the sales do not convert into cash instantaneously the extra working capital is needed for the purchase of raw materials and for the payment of expenditure. To obtain the objective; maximization of shareholders return on their investment, organization should earn sufficient profit which will result in steady from only by successful sales. And the required amount of sales will be possible, in short period, only when current assets are managed adequately. So, it is most important to analyze the position of current assets to facilitate continuous and smooth functioning of business. Now in this section the position of current assets of DDC has been analyzed to know whether DDC has been managing its current assets properly for the smooth functioning of its operation. Hence at first the overall current assets are analyzed.

Table 4.1

Dairy Development Corporation Position of Current Assets

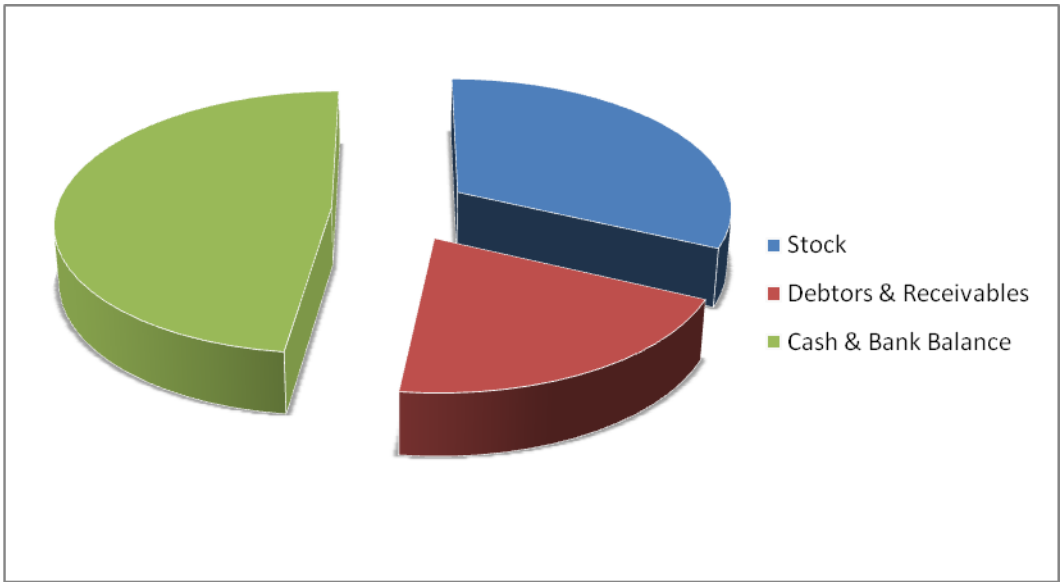
(In million)

Particulars	058/059	059/060	060/061	061/062	062/063	Total	%
Stock	165.71	156.22	169.22	106.38	170.74	**768**	**32**
Debtors & Receivables	89.67	95.91	101.91	90.96	98.15	**477**	**20**
Cash & Bank Balance	189.26	198.63	192.74	300.47	273.99	**1,155**	**48**
Total	**444.64**	**450.76**	**463.87**	**497.81**	**542.88**	**2,400**	

Source: Annual Reports

Figure 4.1

Composition of Current Assets



The above table 4.1 represents the overall current assets position of DDC Limited for five years study period. In this composition Cash and Bank balance is found to be the most weighed component and occupied highest position in current assets. In the F/Y 061/612 this is Rs. 300.47 millions, which is the highest cash and bank balance over the study periods.

From the figure 4.1 it is quite clear that cash and bank has occupied 48% portion of current assets followed by stock and debtors and receivables, with 32% and 20% of the total current assets.

4.3 Composition of Working Capital

The composition of working capital is analyzed by making the study of the following different ratio.

4.3.1 Percentage of Current Assets to Total Assets

To conduct the day to day affairs of a business smoothly, working capital is must. However, quantum of working capital (current assets) depends upon the nature of business, sales and demand condition, technological and manufacturing policy, credit policy, operating efficiency, availability of credit and price level of changes (Pandey,2002). But the portion of current assets to total assets should be matched considering risk return trade off. The tables 4.2 given below depict the percentage of current assets to total assets.7

Table 4.2

Dairy Development Corporation Current Assets to Total Assets

(In million)

Year	Current Assets	Total Assets	Ratio%	%Change
058/059	444.46	976.84	45.50	-
059/060	450.76	963.95	46.76	1.26
060/061	463.87	981.84	47.24	0.48
061/062	497.81	993.94	50.08	2.84
062/063	542.88	1060.65	51.15	1.10
Total	2399.78	4977.32	-	-
Average	479.96	995.46	48.15	1.14

The ratio represents the proportion of current assets investment in total assets of DDC for the selected five years study period. The proportion of current assets to total assets has varied during the study period. In the F/Y 062/063 the volume of current assets is 542.88 millions, the highest investment in CA current assets during the study period. The average investment on current assets is Rs.479.96 millions. So, the above tables that the investment in current assets is in increasing trend in every year.

4.3.2 Percentage of Current Assets to Fixed Assets

The table 4.3 given below represents the ratio of current assets to fixed assets. The ratio shows the weight of current assets in comparison with the fixed assets during the study period.

The average ratio of current assets to fixed assets is 118.14%. This indicates that the investment in current assets is 1.18 times more than current assets. The average investment in current assets with respect to current assets in increasing trend.

Table 4.3

Dairy Development Corporation Current Assets to Fixed Assets

(In million)

Year	Current Assets	Fixed Assets	Ratio%	% Change
058/059	444.46	293.56	151.4	-
059/060	450.76	286.26	157.47	606
060/061	463.87	308.16	150.53	(6.94)
061/062	497.81	771.42	64.53	(86.00)
062/063	542.88	813.20	66.76	2.23
Total	2399.78	2472.6	-	-
Average	479.96	494.52	118.14	(16.93)

Although there is increasing pattern of investing in fixed assets succeeding years but the investment in current assets is higher till 060/061 after than the investment in fixed assets has increased, highest investment in fixed assets is 813.20 million during FY 2062/063. The lowest investment in fixed assets is in FY 058/059 which is 293.56 million that is 51.40% less the current assets of that fiscal year.

4.3.3 Graphical Presentation for Position of Current, Fixed and Total Assets

Table 4.4

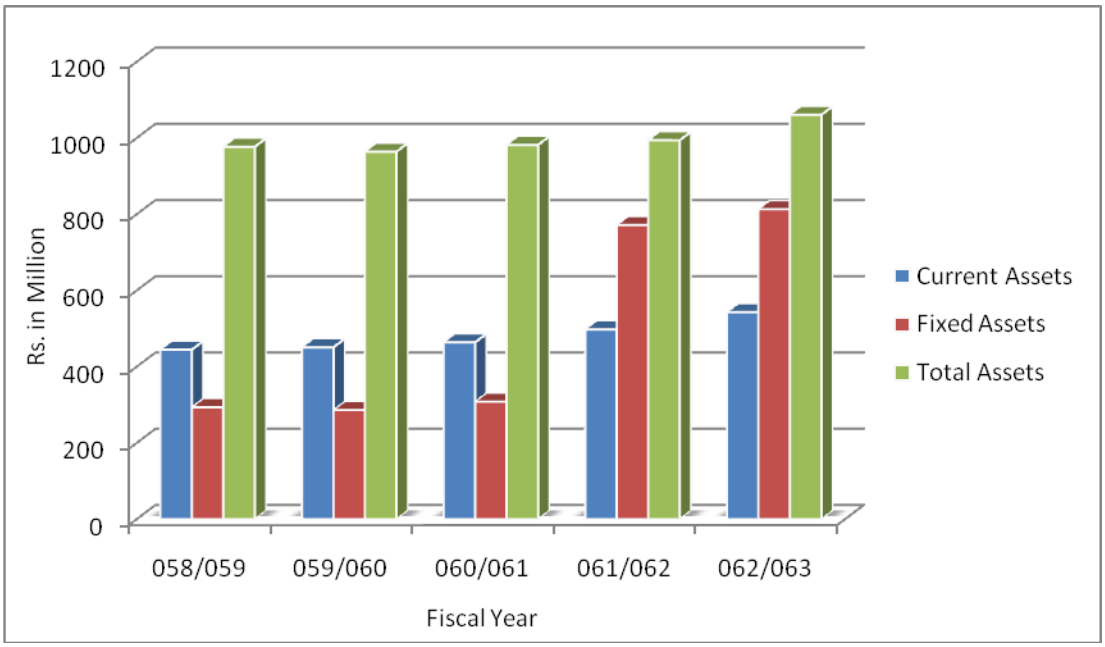
Position of Current, Fixed and Total Assets

(In million)

Year	Current Assets	Fixed Assets	Total Assets
058/059	444.46	293.56	976.84
059/060	450.76	286.26	963.95
060/061	463.87	308.16	981.84
061/062	497.81	771.42	993.94
062/063	542.88	813.20	1,060.65

Figure 4.2

Position of Current, Fixed and Total Assets



4.3.4 Percentage of Cash and Bank Balance to Current Assets

Table 4.5

Dairy Development Corporation Cash & Bank Balance to Current Assets

(In million)

Year	Cash & Bank	Current Assets	Ratio %	% change
058/059	189.26	444.46	42.58	-
059/060	198.63	450.76	44.07	1.48
060/061	192.74	463.87	41.55	(2.51)
061/062	300.47	497.81	60.36	18.81
062/063	273.99	542.88	50.47	(9.89)
Total	1155.09	2399.78	-	-
Average	231.02	479.96	47.81	1.58

A firm holds cash primarily for transactions purposes and additional holdings for precautionary and speculative purpose. The decision with regard to holding cash requires careful analysis in order to approach optimal holdings (Weston and Copland, 1998).

The above table 4.5 shows the proportion of cash and bank balance to current assets of DDC.

From F/Y 058/059 investment in cash and bank balance is in increasing trend. The amount of cash and bank balance in F/Y 061/062 is 300.47 million, which is the highest during the study period. This is 60.36 % of the current assets.

The minimum holding of cash and bank is 41.55% of current assets in F/Y 060/061. The average proportion of cash and bank is 47.81 % out of current assets and average increasing rate is 1.58%.

4.3.5 Proportion of Cash and Bank Balance to Total Assets

Table 4.6

Dairy Development Corporation Cash & Bank Balance to Total Assets

(In million)

Year	Cash & Bank	Total Assets	Ratio %	% change
058/059	189.26	976.84	19.37	-
059/060	198.63	963.95	20.61	1.23
060/061	192.74	981.84	19.63	(0.98)
061/062	300.47	993.94	30.23	10.60
062/063	273.99	1060.65	25.83	(4.40)
Total	1155.09	4977.32	-	-
Average	231.02	995.46	23.13	1.29

The above table 4.6 represents the proportion cash and bank balance out of its total assets during the study period. The investment in cash and bank balance with respect to total assets is varied. It is increasing and decreasing alternatively. The proportion of Cash and Bank Balance is the highest in the F/Y 061/062. This is 30.23 %. It is only because of cash collection of previous years and efficient receivable management. The average investment proportion of cash and bank balance 23.13% out of total assets and average increasing percentage is 1.29.

4.3.6 Proportion of Inventory to Current Assets and Total Assets

Inventory is the important part of current assets. Inventory includes raw materials, work in progress and finished goods as well as spare parts. For a company like DDC, it ensure regular production, and controls production cost and labor variance. The level of inventory should be just enough. Excess inventory hold capital unnecessarily because idle inventory earns nothing. Similarly, it results high cost in its management.

Table 4.7

Dairy Development Corporation Inventory to Current Assets and Total Assets

(In million)

Year	Inventory	Current assets	% Ratio	Total Assets	% Ratio
058/059	165.71	444.46	37.28	976.84	16.96
059/060	156.22	450.76	34.66	963.95	16.21
060/061	169.22	463.87	36.48	981.84	17.23
061/062	106.38	497.81	21.37	993.94	10.7
062/063	170.74	542.88	31.45	1060.65	16.1
Total	768.27	2399.78	-	4977.32	-
Average	153.65	479.96	32.25	995.46	15.44

The above table 4.7 represents the proportion of inventory out of current assets and total assets. The average investment in inventory is Rs. 153.65million, which is 32.25% of current assets and 15.44 % of total assets. The highest investment in inventory with respect to current assets is 37.28 %, which happened in F/Y 058/059. But with respect to total assets, it is 17.23 %, which occurred in F/Y 060/061. Similarly, least investment is 21.37 % with respect to current assets in F/Y 061/062, while with respect to total assets this is 10.70 % in F/Y 061/062.

4.3.7 Proportion of Receivable to Current Assets and Total Assets.

Now a day the business has become so competitive that is very hard to seize market in accordance with the target. So for expansion in size of market in favor of one's product, credit sales play a very important role. As sales increases, profit will also increase and thereby shareholders wealth will be maximized. But credit sales on the contrary create receivables in which capital will be tied up. So for credit period there should be such an arrangement that will save the company from deficiency of working capital. Not only borrowing cash for short term period will give the optimum solution rather receivable itself should be managed to the level which gives satisfactory result in respect of sales profit and shareholder's well being.

Table 4.8

Dairy Development Corporation Receivable to Current Assets and Total Assets

(In millions)

Year	Receivable	Current assets	% Ratio	Total Assets	% Ratio
058/059	89.68	444.46	20.18	976.84	9.18
059/060	95.91	450.76	21.28	963.95	9.95
060/061	101.91	463.87	21.97	981.84	10.38
061/062	90.96	497.81	18.27	993.94	9.15
062/063	98.15	542.88	18.08	1060.65	9.25
Total	476.6	2399.78	-	4977.32	-
Average	95.32	479.96	19.95	995.46	9.58

The above table 4.8 shows that proportion of receivables to current assets and total assets. The average receivable is 95.32 million. This is 19.95 % of current assets and 9.58 % of total assets. The highest receivable is 21.97% with respect to current assets in F/Y 060/061. And it is 10.38 % with respect to total assets in F/Y 060/061. The least investment in receivables is 18.08 % with respect to current assets in F/Y 062/063 and 9.18% with respect to total assets in F/Y 058/059.

4.3.8 Graphical Presentation of Cash & Bank, Receivables and Inventory to Total Assets

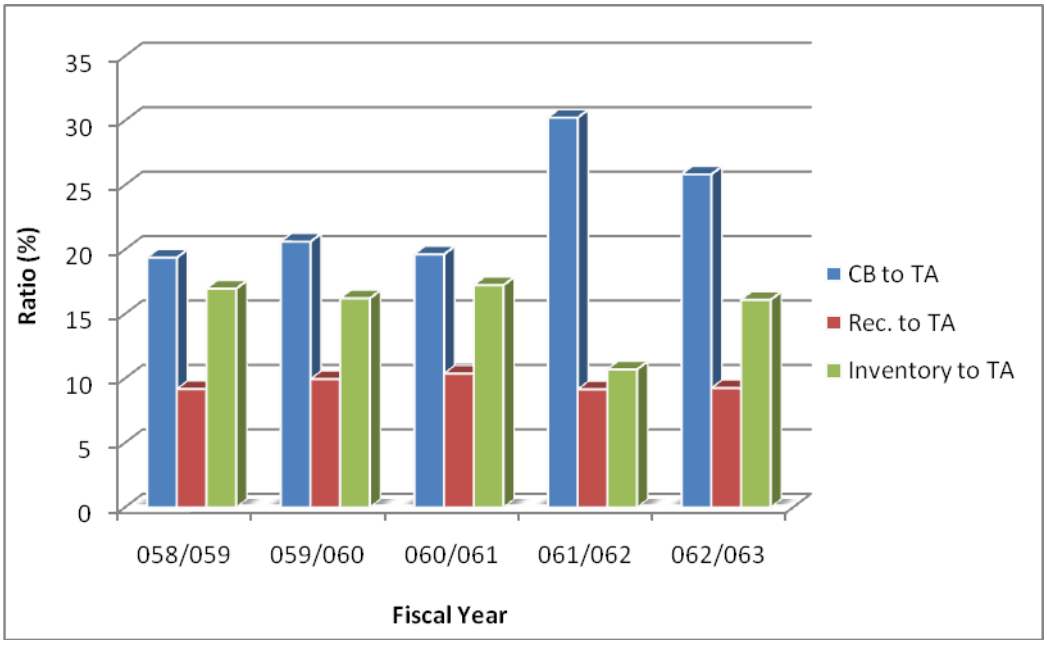
Table 4.9

Cash & Bank, Receivables and Inventory to Total Assets

Year	**CB to TA**	**Rec. to TA**	**Inventory to TA**
058/059	19.37	9.18	16.96
059/060	20.61	9.95	16.21
060/061	19.63	10.38	17.23
061/062	30.23	9.15	10.7
062/063	25.83	9.25	16.1

Figure 4.3

Ratio of Cash & Bank, Receivables and Inventory to Total Assets



4.4 Turnover Position

To know the relationship between sales and assets (Current assets as well as net working capital) the researcher has analyzed turnover position of DDC by employing turnover ratio of assets in terms of sales. Only investing in working capital is not sufficient to get good results and return. Activity or turnover ratios are also known as utilization ratio. How efficiency the assets are employed by the firm is measured by this ratio. This ratio measures the degree of effectiveness in use of resources of finds by an enterprise. It tests the between the sales and investment in different assets. Therefore, the behavior or working capital utilization and improvement can be analyzed with the help of activity or turnover ratio. This reflects the speed and rapidity with which assets are concerted into sales there by resulting in the efficiencies of the enterprises. There is no standard or ideal measurement generally, highest ratio is favorable for the company which shows the efficient average turnover of the company it self may provide a standard measurement for comparison. This section examines the turnover position of the DDC.

4.4.1 Current Assets Turnover / Gross Working Capital Turnover

Sales are the main revenue sources for any short of manufacturing organization. For DDC also the same is the revenue sources. Survival and growth of the organization depends on revenue. So to that extent sales should be made which would make the profit optimum keeping in view the availability of resources. Policy and degree of sales are followed by production policy and similarly production policy is followed by financial policy. Therefore a proper coordination should be established among these policies. The increment in the sales cause increases in production and thereby the amount of inventory and at the end working capital increase also. If the credit sale is increased the working capital will be required in greater amount and vice versa.

Table 4.10

Dairy Development Corporation Current Assets Turnover

(In million)

Year	Sales	Current Assets	Ratio(Times)
058/059	1548.24	444.46	3.48
059/060	1595.91	450.76	3.54
060/061	1535.81	463.87	3.31
061/062	1589.66	497.81	3.19
062/063	1536.34	542.88	2.83
Total	7805.96	2399.78	-
Average	1561.19	479.96	3.27
S.D	-	-	0.28
C.V	-	-	8.63%

The above Table 4.10 shows the current assets turnover during the five years study period. The average turnover is 3.27 times during the study period. Over five years study period highest turnover ratio is 3.48 in FY 058/059 and the lowest is 2.83 in FY 062/063 with standard deviation of 0.28 and c.v. is 8.63%.

4.4.2 Net working Capital Turnover

It is an excess amount of current assets over current liabilities. Such working capital is the margin of safety maintained by the company. In case of trading and financial firm, the

need of working capital will be limited, but in manufacturing company the size of working capital depends upon the production cycle and business cycle. When the ratio increases over times, one can see improvement in net working capital and vice versa.

Table 4.11

Dairy Development Corporation Net Working capital Turnover

(In million)

Year	Sales	Net working capital	Ratio(Times)
058/059	1548.24	46.21	33.5
059/060	1595.91	63.00	25.33
060/061	1535.81	119.04	12.90
061/062	1589.66	121.21	13.12
062/063	1536.34	117.88	13.03
Total	7805.96	467.25	-
Average	1561.19	93.45	19.57
S.D	-	-	9.44
C.V	-	-	48.20%

The above table shows the utilization of net working capital by DDC over the study period of 5 years. The highest turnover is 33.5 times in F/Y 058/059 and the least turnover is 12.90 times in the F/Y 060/061. The average turnover of net working capital is 19.57 times where s.d. is 9.44 and c.v. is 48.20% during the study period. This is approximately 19 times in a year. This indicates good turnover.

4.4.3 Cash Turnover

It is one of the main parts of current assets which have greatest value to meet the current obligations occurred in the business. It should be just adequate to run the business and excess cash has no meaning as it earns nothing. So the company always sees the risk return trade off to maintain the just adequate cash balance.

The cash turnover ratio indicates the number of times the average cash balance is turned over during the year. The turnover of cash in sales is a measure of the enterprise's operations. The higher the turnover, less the cash balance required for any given level of

sales and other things beings equal, implies greater efficiency. It is suggested that this ratio may be used to establish the cash balance to be held. Once the sales forecasts for various periods have been made the required cash balance can be calculated by using the historical cash turnover figures. A low turnover of cash implies larger cash balance required. The higher rate of cash turnover will enable the enterprises to expand its sales volume without adding extra cash and also to reduce the investment in cash if sales are no growing. In either event, the cost of maintaining cash relative to sales falls and the lower the cost, the greater will be the profit on those sales. However there is no universal standard with which to judge the turnover of cash in sales (Pradhan;1986).

Table 4.12

Dairy Development Corporation Cash Turnover

(In million)

Year	Sales	Cash and Bank	Ratio (Times)
058/059	1548.24	189.26	8.18
059/060	1595.91	198.63	8.03
060/061	1535.81	192.74	7.97
061/062	1589.66	300.47	5.29
062/063	1536.34	273.99	5.61
Total	7805.96	1155.09	-
Average	1561.19	231.02	7.01
S.D	-	-	1.44
C.V	-	-	20.47%

The above table shows the turnover position of the cash and bank balance maintained by the DDC during the study period. The company has the highest turnover in the F/Y 058/059 which is 8.18 times and the least turnover is 5.59 times in the F/Y 062/063 whereas s.d. is 1.44 and c.v. is 20.47%. The average Cash turnover ratio is 7.01 times.

4.4.4 Receivables Turnover

The accounts receivable turnover is a ration of sales to account receivable/debtors. The ratio indicates the number of times the receivables is turned over during the year. In order to increase the business activities the company has to increase the sales volume. The sales

volume can be increased by giving product in credit to the customers. The accounts receivable turnover gives a general measure of the productivity of the receivables of the receivable investment. It is also a measure of firm's liquidity or activity. The higher the enterprise's accounts receivable turnover, the more favorable it is. An enterprise can increase its account receivable turnover by a very restrict credit policy also but this strategy would no be recommended due to lost sales that might result. Whatever it may be a lower lever of account receivable turnover clearly indicates the inability of enterprise to turnover more account receivable. It shows inability to generate more sales from the given level of account receivables investment.

Table 4.13

Dairy Development Corporation Receivable Turnover

(In million)

Year	Sales	Receivables	Ratio (times)	Avg. Collect. period
058/059	1548.24	89.68	17.27	21.14
059/060	1595.91	95.91	16.64	21.94
060/061	1535.81	101.91	15.07	24.22
061/062	1589.66	90.96	17.48	20.89
062/063	1536.34	98.15	15.65	23.32
Total	7805.96	476.6	-	-
Average	1561.19	95.32	16.42	22.30
S.D	-	-	1.04	-
C.V	-	-	6.32%	-

The above table represents the receivable turnover of DDC during the study period. The highest turnover during the study period is 17.27 times. This turnover might have come down because of restrictive credit policy.

In the above table the fifth column which represents the additional ratio for assessing utilization of receivables investment with respect to measure the quality of debtors. This measure is also known as days sales in account receivable or collection period of account receivable (ACP), indicates the number of days it takes on an average to collect account receivable. It is more meaningful measure in evaluating an enterprise's credit and

collection policies. The ACP is 20.89days in the F/Y 061/062, this is the best (lowest) during the study period.

In the F/Y 060/061 this is the 24.22 days, which is the worst among five year study period. The average collection period is 22 days during the study period. Similarly the standard deviation is 1.04 and coefficient of variance is 6.32% during the study period.

4.4.5 Inventory Turnover

Inventory is also one of the important components of current assets which are very necessary to assess the utilization of investment in inventory. It has already been stated that the working capital, production and sales are correlated in general cases. A general measure of assessing the utilization of inventory investment is to compute the inventory turnover itself.

The inventory turnover is the ratio of sales to average inventory. The inventory turnover ratio measures rare of speed with which inventories move through and out of the enterprise. In other words, it indicates the number of times the average stock is turned over during the year. Thus the increase inventory ratio indicates improvement in the utilization of inventory investment.

Table 4.14

Dairy Development Corporation Inventory Turnover

(In million)

Year	Sales	Inventory	Ratio (In Times)
058/059	1548.24	165.71	9.34
059/060	1595.91	156.22	10.22
060/061	1535.81	169.22	9.08
061/062	1589.66	106.38	14.94
062/063	1536.34	170.74	9.00
Total	7805.96	768.27	-
Average	1561.19	153.65	10.51
S.D	-	-	2.52
C.V	-	-	23.96%

The above table show that the number of times inventory is replaced during the year. The company has able to make 14.94 times turnover in the F/Y 061/062. In this year the company keeps the stock for (365/14.94) 24 days. The least inventory turnover is in the F/Y 062/063 i.e. 9 times. The average inventory turnover during the study period is 10.51 times with s.d. of 2.52 and c.v. of 23.96%. So, the company keeps the stock for (365/10.51) 34 days in average.

4.5 Liquidity Position

Liquidity is crucial which makes easy to firm day to day operation. The first and for most objective of adopting appropriate working capital policy is to maintain appropriate and optimum liquidity in order to enable the enterprise to meet current short term obligation when they become due. For measuring the ability of the firm to meets current obligations, liquidity ratios are measured. Liquidity ratios provide a quick measure of liquidity by establishing a relationship between cash and other current assets to current obligations. Liquidity should not be too high and to low. High liquidity no doubt reduces the risk of technical insolvency nut at the same time increases cost of holding unnecessary current assets in business and decrease firms profitability. The degree of liquidity can be measured in the help of liquidity ratio. Liquidity denoted ability for payment of short-term liabilities.

Liquidity ratio is generally based on the relationship between current assets and current liability. Since this study is making a focus on working capital management of a company, it is absolutely appropriate to examine the liquidity position of the company. This section attempts to measure the ability DDC in paying the obligation with established standard in liquidity ratio. Following ratio have been calculated to analyze the liquidity position of DDC over the period of five years

4.5.1 Current Ratio

The relationship between current assets and current liabilities is shown by this ratio. This ratio measures the short term solvency of the firm. Current assets include cash inventory receivables and advance deposit.

Table 4.15

Dairy Development Corporation Current Ratio

(In million)

Year	Current Assets	Current Liabilities	Ratio (In Times)
058/059	444.46	398.44	1.12
059/060	450.76	387.77	1.16
060/061	463.87	344.83	1.35
061/062	497.81	358.69	1.39
062/063	542.88	425.00	1.28
Total	2399.78	1914.73	-
Average	479.96	382.95	1.26
S.D	-	-	0.12
C.V	-	-	9.31%

The above table shows the current ratio of DDC during the study period. The highest liquidity position maintained by DDC in the F/Y 061/062 and the least liquidity position is in F/Y 058/059 during the five years study period. The average liquidity position is 1.26: 1 times, standard deviation is 0.12 and c.v is 9.31%. Where as the standard ratio is 2:1. So, the liquidity position of DDC doesn't meet the required ratio.

4.5.2 Quick Ratio or Acid Test Ratio

Quick ratio or acid test ratio is the relationship between the liquid assets and current liabilities. The assets which can be converted into cash immediately or reasonably soon without a loss of value are considered as liquid asset. The current assets except inventory are quick assets since the inventory normally require some time for realizing into cash. Generally a quick ratio of 1:1 is considered to represent a satisfactory current financial condition.

Table 4.16

Dairy Development Corporation Quick Ratio

(In million)

Year	Quick Assets	Current Liabilities	Ratio (In Times)
058/059	278.75	398.44	0.7
059/060	294.54	387.77	0.76
060/061	294.65	344.83	0.85
061/062	391.43	358.69	1.09
062/063	372.14	425.00	0.88
Total	1631.51	1914.73	-
Average	326.3	382.95	0.86
S.D	-	-	0.15
C.V	-	-	17.42%

(Quick Assets = Current Assets – Inventory)

The above table shows the quick ratio of DDC during the study period. In the study period most of the quick ratios are less than 1 except in FY 061/062. The highest quick ratio is 1.09:1 in the F/Y 061/062 and least quick ratio during the study period is 0.7:1 in the F/Y 058/059 Similarly, the standard deviation is found to 0.15 and coefficient of variance is 17.42%. And the average quick ratio is 086:1 this is less than the normal standard; i.e. 1:1 and is not considerable.

4.5.3 Graphical Presentation of Ratio of Current Assets and Quick Assets to Current Liabilities

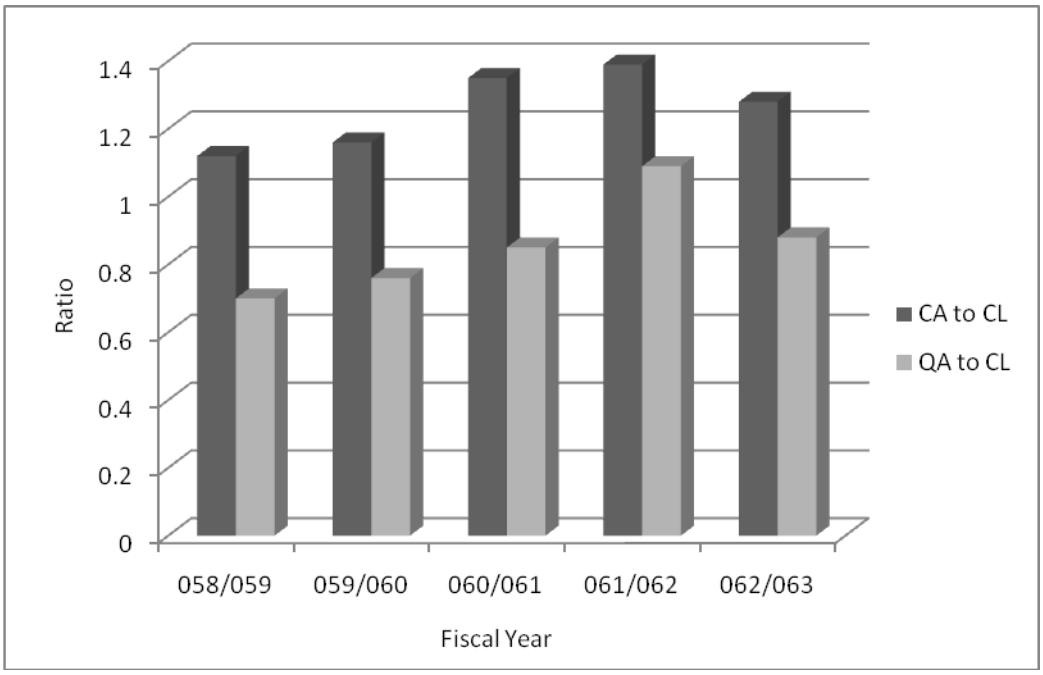
Table 4.17

Ratio of Current Assets and Quick Assets to Current Liabilities

Year	CA to CL	QA to CL
058/059	1.12	0.7
059/060	1.16	0.76
060/061	1.35	0.85
061/062	1.39	1.09
062/063	1.28	0.88

Figure 4.4

Ratio of Current Assets and Quick Assets to Current Liabilities



4.6 Profitability Position

Behind the establishment of a Company there is the objective of earning profit or getting maximum return on investment, which is must to sustain the operation of the business to be able to obtain funds from investors for expansion and growth and to contribute toward the social overheads for the welfare of the society. An ability to earn maximum from the maximum use of available resources by the business organization is known as profitability. It is the measure of efficiency of the company and the search for it provides an incentive to achieve efficiency. The profitability position of a company can be measured by analyzing the profitability ratios such as gross profit margin, net profit margin, operating ratio, and return on assets, net worth and return on working capital.

4.6.1 Gross Profit Margin

The difference between net sales and cost of good sold is the gross profit. This is the profit before deducting operating expenses and income tax payment. Gross profit margin is relationship between gross profits and nets sales which explain that the percentage return on gross profit out of total sales. This ratio measures the efficiency of the company

and soundness of the management. A high gross profit margin ration is a sign of good management. A low gross profit margin may reflect higher cost of good sold due to the firm's inability to purchase raw materials at favorable terms, inefficient utilization of plant and machinery or over investment in plant and machinery, resulting in higher cost of production.

Table 4.18

Dairy Development Corporation Gross Profit Margin

(In million)

Year	Gross Profit	Sales	Ratio %
058/059	44.02	1548.24	2.84
059/060	124.62	1595.91	7.81
060/061	127.02	1535.81	8.27
061/062	79.06	1589.66	4.91
062/063	138.78	1536.34	9.03
Total	512.5	7805.96	-
Average	102.5	1561.19	6.57
S.D	-	-	2.61
C.V	-	-	39.64%

The table 4.17 represents the gross profit margin ratio of DDC during five years study period. During study period, the highest gross profit is 9.03 % which has been acquired in the F/Y 062/063. The least gross profit margin is 2.84 and is incurred in the F/Y 058/059. Like wise the standard deviation is 2.61 and coefficient of variance is 39.64% during the five years of the study period. The average gross profit ratio is 6.57 %.

4.6.2 Net Profit Margin

Net profit margin is obtained when operating expenses, interest and taxes are subtracted from the gross profit. Net profit margin ratio establishes a relationship between net profit and sales and indicates management's efficiency in manufacturing, administering and selling the products.

The ratio is the overall measure of the firm's ability to turn each rupee sales into net profit. If the net profit margin is inadequate, the firms will fail to achieve satisfactory

return on shareholder's funds. The ratio also indicates the firm's capacity to withstand adverse economic condition. A firm with a high net margin ratio would be an advantageous position to survive in the face of falling selling prices, rising cost of production or declining demand for the product. It would be really be difficult for a low net margin firm to withstand these adversities. Similarly a firm with high net profit margin can make better use of favorable conditions such as rising selling prices, decreasing cost of production or increasing demand for the product.

Table 4.19

Dairy Development Corporation Net Profit Margin

(In million)

Year	Net profit	Sales	Ratio %
058/059	(76.13)	1548.24	(4.92)
059/060	8.93	1595.91	0.56
060/061	10.58	1535.81	0.69
061/062	7.36	1589.66	0.46
062/063	(25.54)	1536.34	(1.66)
Total	(74.80)	7805.96	-
Average	(14.96)	1561.19	(0.97)

The table 4.18 represents the net profit margin of DDC during the five years study period. From the above table it is observed that heavy losses incurred in FY 058/059 & 062/063 i e -4.92% and -1.66%.Though it has made some profit margin in FY 059/060, 060/061, 061/062 by 0.56%, 0.69% and 0.46% respectively. This indicates that the firm's is unable to get satisfactory return on sales. DDC suffers heavy losses due to high amount of administrative expenses, interest claimed by the creditors and high volume of inventory.

4.6.3 Graphical Presentation of Ratio of Gross Profit and Net Profit to Sales

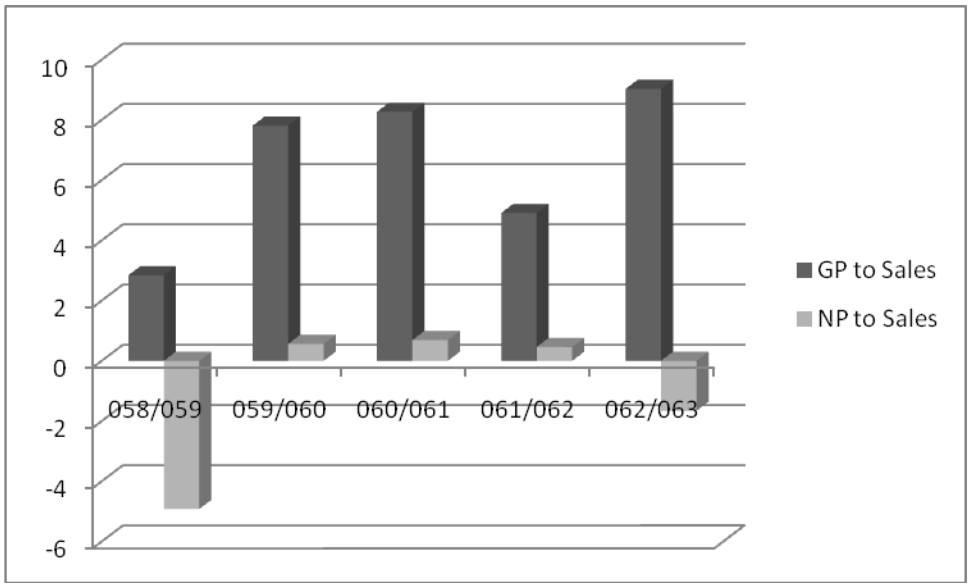
Table 4.20

Ratio of Gross Profit and Net Profit to Sales

Year	GP to Sales	NP to Sales
058/059	2.84	-4.92
059/060	7.81	0.56
060/061	8.27	0.69
061/062	4.91	0.46
062/063	9.03	-1.66

Figure 4.5

Ratio of Gross Profit and Net Profit to Sales



4.6.4 Return of Total Assets

Return on total assets ratio shows the relationship between the total assets and net profit. It measures the percentage of return on the overall total assets employed for every activities of the company. It gives the profit earning efficiency of the company in relation to total assets. This is also called the profit to assets ratio. The return on total assets ratio of DDC is tabulated below.

Table 4.21

Dairy Development Corporation Return on Total Assets

(In million)

Year	Net profit	Total Assets	Ratio %
058/059	(76.13)	976.84	(7.79)
059/060	8.93	963.95	0.93
060/061	10.58	981.94	1.08
061/062	7.36	993.94	0.74
062/063	(25.54)	1060.65	(2.41)
Total	(74.80)	4977.32	-
Average	(14.96)	995.46	(1.49)

From the above table 4.19 we observed that the return on total is mostly negative. In these five years of period DDC has perform very poor. The proportion of return on total assets are -7.79%, 0.93%, 1.08%, 0.74% in FY 058/059, 059/060, 060/061, 061/062, 062/063 respectively. It has -1.49% return on total assets in average.

4.6.5 Return of Current Assets

This is the rate of return on current assets or working capital employed by the company. It measures the profit with respects to its total current assets. It gives the utilization of current assets effectiveness. It is calculated by dividing net profit by total current assets. The given table below shows the relationship between NPAT and current assets of DDC during the study period.

Table 4.22

Dairy Development Corporation Return on Current Assets

(In miilion)

Year	Net profit	Current Assets	Ratio %
058/059	(76.13)	444.46	(17.13)
059/060	8.93	450.76	1.98
060/061	10.58	463.87	2.28
061/062	7.36	497.81	1.48
062/063	(25.54)	542.88	(4.70)
Total	(74.80)	2399.78	-

Average	(14.96)	479.96	(3.21)

The above table shows that the percentage return of current assets of DDC in most of the F/Y's is negative which shows the weak financial position. But in the F/Y 059/060 to 061/062 return on current assets is positive. The average return on current assets is -3.21 % which is also negative. It indicates the inefficient management of current assets. The huge volume of inventory is the major factor affecting the results.

4.6.6 Return of Net Worth

Return on Net Worth: Net profit After Tax divided by Net Worth (Net Worth: Current assets plus fixed assets minus current and long-term liabilities or Total Assets minus total liabilities). This is the 'final measure' of profitability to evaluate overall return. This ratio measures return relative to investment in the company. Put another way, Return on Net Worth indicates how well a company leverages the investment in it, may appear higher for startups and sole proprietorships due to owner compensation draws accounted as net profit. It would be appropriate to measure this ratio because mere measuring return on sales and total assets can not provide so much useful basis.

Table 4.23

Dairy Development Corporation Return on Net Worth

(In million)

Year	Net profit	Net Worth	Ratio %
058/059	(76.13)	422.18	(18.03)
059/060	8.93	420.89	2.21
060/061	10.58	551.91	1.92
061/062	7.36	551.00	1.34
062/063	(25.54)	552.35	(4.89)
Total	(74.80)	2468.33	-
Average	(14.96)	493.67	(3.51)

The above table shows that the ratio of negative return on net worth are in the fiscal years 058/059& 062/063 and these are -18.03% & -4.89%respectively. In the F/Y 059/060 to 061/062 return on net worth is positive which is 2.21%, 1.925% and 1.34% respectively.

The negative return on net worth is so high this indicates that the corporation is bearing heavy losses during five years of study period.

4.6.7 Graphical Presentation of Return of Total Assets, Current Assets and Net Worth

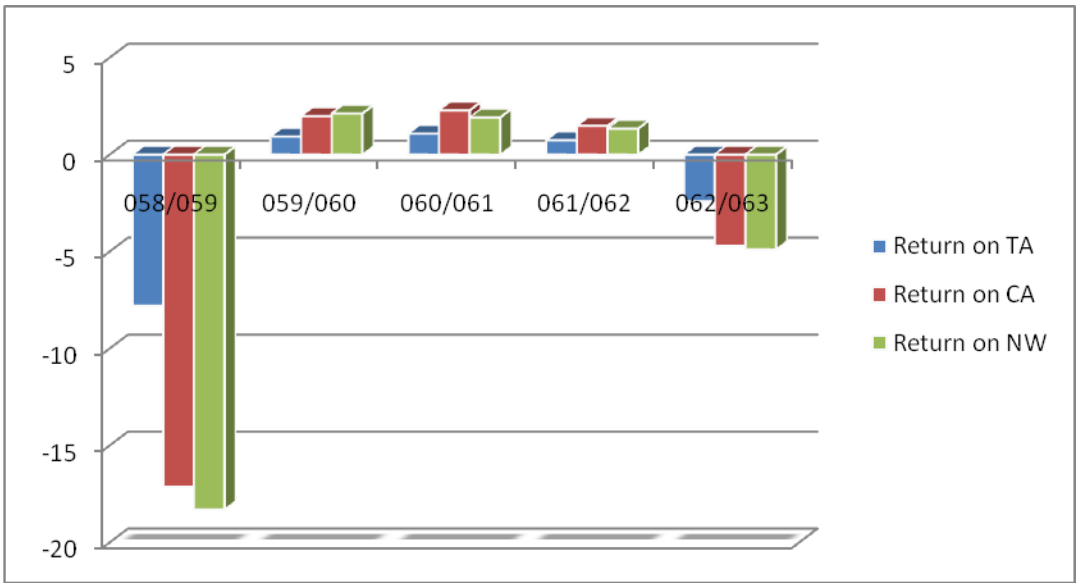
Table 4.24

Return of Total Assets, Current Assets and Net Worth

Year	Return on TA	Return on CA	Return on NW
058/059	-7.79	-17.13	-18.3
059/060	0.93	1.98	2.12
060/061	1.08	2.28	1.92
061/062	0.74	1.48	1.34
062/063	-2.41	-4.7	-4.89

Figure 4.6

Return of Total Assets, Current Assets and Net Worth



4.7 Analysis of the Relationship of Working Capital Variables

The financial performance of companies is directly related to their ability to manage working capital management efficiently and effectively. The use of financial tools has already given adequate trust in showing the analysis of various variables to determine the working capital management. But to make the analysis more rigorous and weight certain

statistical tools have been used to see how far the relationship between variables provides meaningful implication or not.

Correlation is the statistical tool that we can use to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of findings out co-efficient of correlation, Karl Person's method is applied in the study. The result of coefficient of correlation is always between +1 and –1 when r is +1, it means there is perfect relationship between two variables and vice versa. When r is 0 its means there is no relationship between two variables.

In this section, various statistical tools (correlation analysis, probable error and regression analysis) are used to show the relationship between the followings

(i) Current Assets and Current liabilities
(ii) Current Assets and Sales
(iii) Sales and receivables
(iv) Sales and inventory
(v) Net working capital and sales
(vi) Net Profit and Net Working capital

Relationship between Current Assets and Current Liabilities

Following analysis shows the correlation between Current assets and Current liabilities:

1.2

1.3 Table 4.25

1.4 Relationship between Current Assets and Current Liabilities

(In million)

Year	CA(X)	CL(Y)	$x(X-\overline{X})$	X^2	$y(Y-\overline{Y})$	Y^2	xy
058/059	444.46	398.44	-35.49	1259.54	15.49	239.94	-549.74
059/060	450.76	387.77	-29.19	852.06	4.82	23.23	-140.7
060/061	463.87	344.83	-16.08	258.57	-38.12	1453.13	612.97
061/062	497.81	358.69	17.86	318.98	-24.26	588.55	-433.28

062/063	542.88	425.00	62.93	3960.18	42.05	1768.2	2646.21
	$\sum x$ = 2399.78	$\sum Y$ = 1914.73		ΣX^2 = 6649.33		ΣY^2 = 4073.06	$\sum xy$ = 2135.46

Now, $\overline{X} = \frac{\sum X}{N} = 479.96$ $\overline{Y} = \frac{\sum Y}{N} = 382.925$

$\sigma x = \sqrt{1/N(x - \bar{x})^2}$ $\sigma y = \sqrt{1/N(y - \bar{y})^2}$

$= \sqrt{1/5(6649.33)}$ $= \sqrt{1/5(4073.06)}$

$= 36.46$ $= 28.54$

Correlation Coefficient

$$rxy = \frac{\sum XY}{\sqrt{\sum x^2 \sum y^2}} = \frac{2135.46}{\sqrt{6649.33 X 4073.06}} = 0.41$$

$$PEr = \frac{(0.6745)1 - r^2}{\sqrt{N}} = 0.6745 X \frac{1 - (0.41)^2}{\sqrt{5}} = 0.25$$

6PEr = 6x 0.25 = 1.50

Regression

$$Y - \overline{Y} = r \frac{\sigma y}{\sigma x} (X - \overline{X})$$

$$Y - 382.95 = 0.41 \frac{28.54}{36.46} (X - 479.96)$$

$Y - 382.95 = 0.32X - 154.03$

$Y = 0.32X + 536.98$

To show the correlation between current assets and current liabilities, Karl Pearson coefficient of correlation (r) is determined. For this purpose current assets and current liabilities are interrelated variables so that both variables are explored.

It is assumed that current liabilities increase when current assets increase. It means that there should be positive relationship between current assets and current liabilities. Let us calculate the 'r' to show the relationship between them.

The value of r (+0.41) shows that there is positive correlation between current assets and current liabilities. A highly positive correlated correlation coefficient indicates the strong positive relationship between current assets and current liabilities, i.e. increase in current assets brings increase in current liabilities and vice versa.

Since, r< 6 P.E (r), the value of r is not significant. It is not sure that if the current assets increase, current liabilities will also increase.

A regression line also can be fitted to show the degree of relationship between current assets and current liabilities. For this purpose, current assets are taken as independent variable and current liabilities as a dependent variable.

The regression coefficient (0.32) indicates that there exists positive relationship between the current assets and current liabilities. It also indicates that a one rupee increases in current assets brings Rs.0.32 increase in current liabilities. From the result, it can be concluded that the DDC needs funds from short- term sources.

Current Assets and Sales

Following analysis shows the correlation between Current assets and Sales:

Table 4.26

Relationship between Current Assets & Sales

(In Millions)

Year	Current Assets(X)	Sales(Y)	$x(X-\overline{X})$	$y(Y-\overline{Y})$	x^2 $(X-X)^2$	y^2 $(Y-Y)^2$	xy (X-X)(Y-Y)
058/059	444.46	**1548.24**	**-35.49**	**-12.95**	**1259.54**	**167.7**	**459.6**
059/060	450.76	**1595.91**	**-29.19**	**34.72**	**852.06**	**1205.48**	**-1013.48**
060/061	463.87	**1535.81**	**-16.08**	**-25.38**	**258.57**	**644.14**	**408.11**

061/062	497.81	**1589.66**	**17.86**	**28.47**	**318.98**	**810.54**	**508.47**
062/063	542.88	**1536.34**	**62.93**	**-34.85**	**3960.18**	**617.52**	**-1563.81**
	$\sum x$ = 2399.78	**Σy= 7805.96**			ΣX^2 = **6649.33**	ΣY^2 = **3445.39**	$\sum xy$ = -1201.11

Now, $\overline{X} = \frac{\sum X}{N}$ **=479.96** $\overline{Y} = \frac{\sum Y}{N} =$ **1561.19**

σx= $\sqrt{1/N(x-\bar{x})^2}$ σy= $\sqrt{1/N(y-\overline{y})^2}$

= $\sqrt{1/5(6649.33)}$ = $\sqrt{1/5(3445.39)}$

=36.46 =26.25

Correlation Coefficient

$$rxy = \frac{\sum XY}{\sqrt{\sum x^2 \sum y^2}} = \frac{(-1201.11)}{\sqrt{6649.33 X 3445.39}} = -0.25$$

$$\text{PEr} = \frac{(0.6745)1-r^2}{\sqrt{N}} = 0.6745\, X\, \frac{1-(-0.25)^2}{\sqrt{5}} = 0.2828$$

6PEr = 6X 0.2828 = 1.69

Regression

$$Y - \overline{Y} = \text{r}\, \frac{\sigma y}{\sigma x}\, (X - \overline{X})$$

$$\text{Y- 1561.19} = \text{-0.25}\, \frac{26.25}{36.46}\, (\text{X} - 479.96)$$

Y – 1561.19= - 0.18X + 86.39

Y = -0.18X +1647.58

Above table shows that the value of r is -0.25 shows that there is highly Negative correlation between current assets and sales.

Since, r<6 P.E (r), the value of r is not significant. It is not sure that if the current assets increase, and Sales will increase.

For this purpose, current assets are assumed to be independent upon sales. The result indicates that if one rupee increases in the sales the amount of current assets decrease by Rs.0.18.

Sales and Receivables

Following analysis shows the correlation between Sales and Receivables:

Table 4.27

Relationship between Sales and Receivable

(In Millions)

Year	**Sales (X)**	**Receivable (Y)**	$x(X-\overline{X})$	$\mathbf{X^2}$	$y(Y-\overline{Y})$	$\mathbf{Y^2}$	**xy**
058/059	**1548.24**	89.67	**-12.95**	**167.7**	-5.56	31.92	73.17
059/060	**1595.91**	95.91	**34.72**	**1205.48**	0.59	0.35	20.48
060/061	**1535.81**	101.91	**-25.38**	**644.14**	6.59	43.43	-167.25
061/062	**1589.66**	90.96	**28.47**	**810.54**	-4.36	19.01	-124.13
062/063	**1536.34**	98.15	**-24.85**	**617.52**	2.83	8.01	-70.33
	∑X= 7805.96	∑Y = 476.60		ΣX² = **3445.39**		ΣY² = 102.72	∑xy = -268.06

Now, $\overline{X} = \frac{\sum X}{N}$ =1561.19

$\overline{Y} = \frac{\sum Y}{N} = 95.32$

σx= $\sqrt{1/N(x-\bar{x})^2}$

= $\sqrt{1/5(3445.39)}$

=26.25

σy= $\sqrt{1/N(y-\bar{y})^2}$

= $\sqrt{1/5(102.72)}$

=4.53

Correlation Coefficient

$$rxy = \frac{\sum XY}{\sqrt{\sum x^2 \sum y^2}} = \frac{-268.06}{\sqrt{3445.39 X 102.72}} = -0.45$$

$$\text{PEr} = \frac{(0.6745)1-r^2}{\sqrt{N}} = 0.6745\,X\,\frac{1-(-0.45)^2}{\sqrt{5}} = 0.240$$

6PEr = 6x 0.240 = 1.44

Regression

$$Y - \overline{Y} = r \frac{\sigma y}{\sigma x} (X - \overline{X})$$

$$Y - 95.32 = -0.45 \frac{4.53}{26.25} (X - 1561.19)$$

$$Y - 95.32 = -0.0776X + 121.23$$

$$Y = -0.0776X + 216.55$$

Above table shows the value of r is -0.45 shows that there is negative correlation between sales and receivable.

Since, r <6 P.E (r), the value of r is not significant, so that receivable decrease at increasing level of sales and vice versa. To see the linear relationship receivable is taken as dependent and sales as an independent variable. Based on above assumption, the regression line of receivable(y), sales (x)

The result indicates that one rupee increase in the sale that causes the receivable decrease by Rs.0.0776. Thus, management of DDC should evaluate risk-return trade off extending the additional sales. 1 percent increase in sales leads to only 0.0776 percent decrease in the receivable. It shows that lower level of risk associated in receivable with increased level of sales.

Relationship between Sales and Inventory

Following analysis shows the correlation between Sales and Receivables:

Table 4.28

Relationship between Sales and Inventory

Year	**Sales (X)**	**Inv. (Y)**	$x(X - \overline{X})$	$\mathbf{X^2}$	$y(Y - \overline{Y})$	$\mathbf{Y^2}$	**xy**
058/059	**1548.24**	165.71	**-12.95**	**167.7**	12.06	145.44	-156.18
059/060	**1595.91**	156.22	**34.72**	**1205.48**	2.57	6.60	89.23
060/061	**1535.81**	169.22	**-25.38**	**644.14**	15.57	242.42	-395.17
061/062	**1589.66**	106.38	**28.47**	**810.54**	-47.27	2234.45	1345.78
062/063	**1536.34**	170.74	**-24.85**	**617.52**	17.09	292.07	-424.69
	∑X= 7805.96	∑Y = 768.27		ΣX^2 = **3445.39**		ΣY^2 = 2920.99	∑xy = -2232.58

Now, $\overline{X} = \frac{\sum X}{N}$ =1561.19

$\overline{Y} = \frac{\sum Y}{N} = 153.65$

σx= $\sqrt{1/N(x-\bar{x})^2}$

= $\sqrt{1/5(3445.39)}$

=26.25

σy= $\sqrt{1/N(y-\bar{y})^2}$

= $\sqrt{1/5(2920.99)}$

= 24.17

Correlation Coefficient

$$rxy = \frac{\sum XY}{\sqrt{\sum x^2 \sum y^2}} = \frac{-2232.58}{\sqrt{3445.39 X 2920.99}} = -0.70$$

$$\text{PEr} = \frac{(0.6745)1-r^2}{\sqrt{N}} = 0.6745\,X\,\frac{1-(-0.70)^2}{\sqrt{5}} = 0.153$$

6PEr = 6X0.153 = 0.922

Regression

$$Y - \overline{Y} = \text{r}\ \frac{\sigma y}{\sigma x}\ (X - \overline{X})$$

$$\text{Y- 153.65 = -0.70}\ \frac{24.17}{26.25}\ \text{(X – 1561.19)}$$

Y – 153.65 = -0.644X + 1006.23

Y = -0.644X + 1159.88

Above table shows the value of r is -0.70shows that there is negative correlation between Inventory and sales.

Since, r < 6 P.E (r), the value of r is not significant. Thus, it is clear that if sales increase, the inventory will also decrease and vice versa.

A regression line is also fitted to show the degree of relationship between inventory and sales. First, assume inventory y as dependent and sales x as independent variable.

The result shows the positive relationship between sales and inventory balance. The regression coefficient of -0.644 shows that if the one rupee increases in sales volume bring about Rs. -0.644 decrease in inventory balance.

Relationship between Net Working Capital and Sales

Following analysis shows the correlation between Net working capital and Sale:

Table 4.29

Relationship between Net Working Capital and Sales

Year	Net W/C(X)	Sales (Y)	$x(X-\overline{X})$	X^2	$y(Y-\overline{Y})$	Y^2	xy
058/059	46.21	**1548.24**	-47.24	2231.62	**-12.95**	**167.7**	6117.76
059/060	63.00	**1595.91**	-30.45	927.2	**34.72**	**1205.48**	-1057.22
060/061	119.04	**1535.81**	25.59	654.85	**-25.38**	**644.14**	-649.47
061/062	121.12	**1589.66**	27.67	765.63	**28.47**	**810.54**	787.76
062/063	117.88	**1536.34**	24.43	596.82	**-24.85**	**617.52**	-607.09
	$\sum x =$ 467.25	**Σy= 7805.96**		$\Sigma X^2 =$ 5176.12		**$\Sigma Y^{2=}$ 3445.39**	$\sum xy =$ -914.26

Now, $\overline{X} = \frac{\sum X}{N}$ =93.45

$\overline{Y} = \frac{\sum Y}{N} = 1561.19$

$\sigma x = \sqrt{1/N(x-\bar{x})^2}$

$= \sqrt{1/5(5176.12)}$

=32.17

$\sigma y = \sqrt{1/N(y-\bar{y})^2}$

$= \sqrt{1/5(3445.39)}$

= 26.25

Correlation Coefficient $rxy = \frac{\sum XY}{\sqrt{\sum x^2 \sum y^2}} = \frac{-914.26}{\sqrt{5176.12 X 3445.39}} = -0.216$

PEr $= \frac{(0.6745)1-r^2}{\sqrt{N}} = 0.6745 X \frac{1-(-0.216)^2}{\sqrt{5}} = 0.2875$

6PEr = 6x 0.2875= 1.72

Regression

$Y - \overline{Y} =$ r $\frac{\sigma y}{\sigma x} (X - \overline{X})$

Y- 1561.19= -0.216 $\frac{26.25}{32.17}$ (X – 93.45)

Y –1561.19= --0.176X + 16.47

Y = -0.176X + 1577.66

Above table shows that the value of r is -0.216, this shows that there is highly negative correlation between net working capital and sales. A highly negative correlation coefficient indicates the strong negative relationship between net working capital and sales i.e. increase in net working capital does not increase in sales and vice versa.

Since, r < 6 P.E (r), the value of r is not significant. Thus, it is clear that if sales decrease, the net working capital will increase and vice versa.

A regression line is also fitted to show the degree of relationship between net working capital and sales. First, assume net working capital (x) as independent and sales (y) as dependent variable.

The result shows the negative relationship between sales and net working balance. The regression coefficient of -0.176 shows that if the one rupee increases in sales volume bring about Rs.0.176 decrease in working capital balance.

Relationship between Net Profit and Net Working Capital

Following analysis shows the correlation between Net working capital and Net Profit

Table 4.30

Relationship between Net Working Capital and Net Profit

Year	**Net Profit (X)**	**Net W/C (Y)**	$x(X-\overline{X})$	$\mathbf{X^2}$	$y(Y-\overline{Y})$	$\mathbf{Y^2}$	**xy**
058/059	-76.13	46.21	-61.17	3741.77	-47.24	2231.62	2889.67
059/060	8.93	63.00	23.89	570.73	-30.45	927.2	-727.45
060/061	10.58	119.04	25.54	652.29	25.59	654.85	653.57
061/062	7.36	121.12	22.32	498.18	27.67	765.63	617.59
062/063	-25.54	117.88	-10.58	111.94	24.43	596.82	-258.47
	$\sum x$ = -74.80	$\sum Y$ = 467.25		ΣX^2 = 5574.91		ΣY^2= 5176.12	$\sum xy$ = 3174.91

Now, $\overline{X} = \frac{\sum X}{N}$ =-14.96 $\overline{Y} = \frac{\sum Y}{N} = 467.25$

σx= $\sqrt{1/N(x-\bar{x})^2}$ σy= $\sqrt{1/N(y-\bar{y})^2}$

= $\sqrt{1/5(5574.91)}$ = $\sqrt{1/5(5176.12)}$

=33.39 = 32.17

Correlation Coefficient $rxy = \frac{\sum XY}{\sqrt{\sum x^2 \sum y^2}} = \frac{3174.91}{\sqrt{5574.91 X 5176.12}} = 0.59$

PEr = $\frac{(0.6745)1-r^2}{\sqrt{N}} = 0.6745\,X\,\frac{1-(0.59)^2}{\sqrt{5}} = 0.196$

6PEr = 6x 0.196 = 1.17

Regression

$Y - \overline{Y} =$ r $\frac{\sigma y}{\sigma x}$ $(X - \overline{X})$

Y- 93.45= 0.196 $\frac{32.17}{33.39}$ (X + 14.96)

Y – 93.45 = 0.568X + 8.50

Y = 0.568X + 101.95

Above table shows the value of r is +0.196 that there is positive correlation between net profit and net working capital.

Since, r < 6 P.E (r) the value of r is not significant. It is not sure that if the net working capital increase and profit will increase. To show the degree of relationship between net profit and net working capital, a simple regression line is drawn below.

For this purpose, net profit is assumed to be dependent upon net working capital. There is positive relationship between net profit and Net working capital. If 1 rupee increase in

Net Working Capital the profit will increase by Rs 0.568, since the regression coefficient is positive, the net working capital of management of DDC is found to some extent good.

1.4.1.1

1.4.1.2 4.8 Major Finding

The major findings of the study are as follows:

1. In the current assets, inventory holds second largest proportion and has increasing and decreasing trend. In FY 2059/060 it has decreased by 2.62% comparing to FY2058/059. Similarly, in FY 2060/061it has again increased by 1.82%and in FY 2061/062 it has decreased heavily by 15.11%. Having such large volume of the inventory in the organization causes unnecessary working capital blockage which is due to mis-management of inventory. The range of inventory rise from 21.37% to 37.28%. The average inventory with respect to the current assets is 32.25% and 15.44% with respect to Total assets. During the study period, it ranged from 10.70% to 17.23% comparing to total assets.

2. Receivables position with respect to current assets and total assets is in increasing trend for two fiscal year then after decreasing trend till end of the study period. The position of receivables to current assets ranging between 18.08% to 21.87%, in an average 19.95% of current assets during the study period. Similarly the position of receivables to total assets ranging from9.15% to 10.38% and has occupied 9.58% in an average of the total assets. The proportion of receivables is affected by the credit policy of the corporation.

3. The major components of current assets in DDC are inventory, Receivables, cash & bank balance. In the current assets cash & bank holds the largest proportion with 48% of current assets, inventory holds 32% and advance & receivables hold 20% of current assets respectively.

4. The current assets level with respect to total assets has increasing trend. It increased from 45.50% to 51.18% with average of 48.15% as cash & bank balance is the

major components of current assets of DDC. Cash & bank balance is in fluctuating trend, the ratio of cash & bank to current assets is 47.81% in average. In FY 2059/060 it has increased by 1.48% comparing to FY2058/059 and in FY2061/062 it has increased by 18.8% comparing to FY2060/061 which is the highest increment during the study period. Similarly, cash and bank to total assets are ranging from 19.375 to 30.23% with an average of 23.13%.This clearly shows that investment in current assets is in increasing trend during the study period.

5. Ratio of return on net worth is highly negative -18.03% in the FY 2058/059 then after up to FY2061/062 it is positive but in very negligible amount. In FY 062/063 it is again negative -4.89%. So, during the study period, return on net worth is highly negative with some negligible amount of positive returns.

6. The turnover position of DDC is in fluctuating trend. Current assets turnover is ranging from 2.83 times to 3.54 times, like wise net working turnover is ranging from 12.90 times to 33.5times which is also in fluctuating trend over five years of study period. Similarly, the receivable turnover is ranging from 15.07 times to 17.48 times. In average the receivable turnover is 16.42 times. DDC has able to maintain it's average collection period averaging 22 days. The ACP of DDC is ranging between 20 days to 24 days.

7. The liquidity position of the corporation is analyzed with the current ratio and quick ratio. The current ratio of the DDC is ranging in between 1.12:1 to 1.39:1 with and average of 1.26:1 during the study period which could not meet the standard ratio of 2:1. The quick ratio is also ranging from 0.70:1 to 1.09:1 with an average of 0.86:1 which is found as favorable though it could not meet the standard ratio of 1:1.

8. For measuring the efficiency of the company profitability is analyzed. Thus the profitability position of DDC has been analyzed from various angles. The gross profit margin of

the corporation is in fluctuating trend. It is ranging from 2.89% to 9.03%. In net profit margin it is highly negative expect in FY2059/60, 060/061 & 061/062 but the profit made by DDC is in negligible amount only. So, it the profitability position of DDC is very unsatisfactory. Extremely high losses are caused due to inefficiency of management operational activities. The wide difference between gross profit margin and net profit margin is the cause of high level of operating cost.

9. The return on the total assets is almost in negative, ranging from -7.79 % to 1.08% with an average of -1.49%. Only from the FY 2059/060 to 2061/062 there is some nominal positive return can be found.

10. DDC has been established in social welfare. It is still following conservative working capital management policy, which reduced the risk of the organization but also hamper in the profitability position of the organization.

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The study is concentrated on the various aspects of the working capital management with special reference of DDC of Nepal. It covers the period of five years from F/Y 059 to 063 This study has focused on the liquidity position working capital policy followed by DDC Besides these some statistical techniques are used to analyze the collected facts in order to examine their relationship to each other.

This chapter summarizes the whole study, draws the conclusions and forwards the recommendation for efficient working capital management of DDC.

5.1 Summary

The main aim of this study is to examine the different aspects of working capital management taking into account the case of DDC. Its specific objectives are i) To determine the structure of working capital ii) Risk return analysis of working capital. iii) To assess the turnover of the working capital iv) To Assess the financial liquidity position of DDC. V) Based upon the above analysis and findings as indicated in point's i-iv to suggest the measures for efficient working capital management in DDC. For this purpose of the study the necessary data on working capital are collected for the period F/Y 059 to F/Y 063. The financial statement, profit & loss account and Balance sheet provided by the finance department of DDC help to complete the study. Similarly for collection of primary data questionnaire are distributed to chiefs of various department of DDC and their opinion collected on working capital management and the result brought into an appropriate form required for the study.

To analyze the secondary data in this study, ratio analysis is used as a financial tool. Karl Pearson's Coefficient of Correlation, probable error and Regression analysis have been used to analyze the trade of between profitability and liquidity position of the company.

5.2 Conclusions

While analyzing the management of working capital in DDC with the help of different ratio analysis or correlation coefficient we have derived the following conclusions.

1. The proportion of current assets with respect to the total assets in DDC shows that the investment in current assets is high. As the risk and profitability would decrease DDC has proportion of current assets due to the higher amount of inventory, cash and receivables, which could effect in DDC's wealth maximization in the long run.

2. As the out comes of credit sales, receivables are inevitable in today's business world, the receivables constitute an important part in assets of the corporation under the period of observation 20% of current assets is occupied by receivables, which comes to 9.58% in total assets in an average. Further its average collection period is 22days. The higher level of receivable cause unnecessary tie up of working capital. Hence this level should be reduced.

3. Major part of current assets is occupied by inventory under the study period. Where the proportion of inventory is 32% of its current assets and 15.44% of its total assets in average. The corporation has quite high inventory turnover, which is 10.51 times in average. The excess inventory cause unnecessary working capital blockage and short inventory result irregular manufacturing process. Hence the inventory should be kept optimum level, so that neither it is excess nor short. But there is higher proportion of inventory in DDC, which means a large tie up of fund in it. So far as liquidity id concerned inventory is less liquid assets in it self. So, it can be concluded that there is unsound inventory management policy in DDC.

4. The composition of different components of current liabilities various during the study period. Different component of current liabilities are not related to each other. It means that DDC has not taken seriously about current liabilities, in the

composition of current liabilities provision for bonus and gratuity has a high proportion but the corporation is in heavy loss year after year.

5. In the analysis of profitability position of DDC, we can concluded that though some negligible amount of profit has been made by DDC, we can conclude that it is in heavy loss .So, the profitability position is very poor and unsatisfactory. DDC is bearing heavily accumulated losses at increasing rate. The profit making capacity of the corporation is worsening, caused by the extremely low utilizations of plant, high amount of administrative expenses, inefficiency in sales and operational activities and lack of efficient management of the corporation.

6. Though the current ration of the DDC during the study period is satisfactory, the current assets contain more cash & bank and inventory. Similarly there is insignificance relationship between current assets and current liabilities. The average current ratio is 1.26:1 times below standard 2:1 and there is positive correlation between current assets and current liabilities. The quick ratio of DDC is 0.86:1 in the average which shows quite satisfactory liquidity position of the corporation.

7. Cash occupied 48% of the current assets which comes 23.23% of the total assets in average during the period of the study. Unnecessary holding of cash is not beneficial for the corporation. It indicates inefficiency of the corporations on cash utilization. Cash is generated by sales and sales is generated by cash. So the cash should be mobilized to generate maximum sales. DDC has cash turnover of 7.01 times in an average during the study period. Hence DDC still has to improve its cash management, to increase the cash turnover and to reduce the duration of cash conversion cycle.

8. Dairy Development Corporation in the present context is facing certain policy issues like deficient financial planning, neglect of working capital management, deviation between liquidity & turnover etc. these policy issues can be overcome if

DDC undertake measures like identification of needed funds, regular checks, development of management information system, positive attitude towards risk and profit determination, right combination of short term and long term, source of funds to finance working capital needs, appropriate combination of investment in current assets minimizing operating cost, preparing effective sales plan, specific working capital policy, improving liquidity position and by improving financial performances .

9. DDC has been established in social welfare. IT has still followed conservative working capital policy, which reduce the risk of the organization but also hamper in the profitability position of the organization. It can be improved by adopting matching working capital management policy, which could maximize profitability of the corporation.

5.3 Recommendations

Based on the findings of the study following recommendations are forwarded for the improvement of the working capital management of Dairy Development Corporation.

1. It is essential to formulate working capital policy for DDC besides there should be a policy to prevent the holding of excessive or inadequate current assets in the company.

2. The corporation should estimate the requirement of cash immediately. If the cash appears more than requirement the company should invest such idle fund in marketable securities.

3. The corporation should adopt the definite credit and collection policies for effective management of working capital of DDC, which help to operate business with lower level of working capital.

4. There should be good store- keeping system better material handling system and timely inspection system. They should also adopt modern inventory system and enforce them from time to time

5. Most of the companies have liquidity crisis. So the company should take strong liquidity policy to solve liquidity problem.

6. There should be training and upgrading for the managerial level employees to develop managerial ability for risk bearing.

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APPENDIX

PROFILE

A brief introduction of Dairy Development Corporation

The Dairy Development Commission was formed in B.S 2012 to fulfill the need of milk and milk products of the country. The demand of milk and other milk product increased day by day that's why it was necessary to establish the "Central Dairy Plant". That's why it was established in 2010 B.S but due to lack of adequate space changed into dairy business commission in 2019B.S. Finally DDC was established in 2026B.S under the corporation act B.S2021 in the course of third Five-Year Plan. DDC fully owned by government through it is working in a low performance as consequences it has been suffered by a loss perpetually.

DDC has tried to collect milk supply easily in urban area taken from rural regions. It has extended it several branch office in several region of the country e.g. Kathmandu, Birgunj, Hetuada, Pokhara, Lumbini and so on.

The production of milk and milk related industry had a very good scope as there was huge production of milk and it was not properly cashed because of lack of the market the industry to consume the production in opposition to that we were importing powder milk from india and from European countries. Our own production is not utilized properly and we are spending hard currency to import foreign milk products. It was limited only buying and selling of crude milk. It lacked technical expertise and technology. The private sector of the country could not serve the purpose, as the faiths of general public on private sector were not so good. As the private sector itself was not capable enough to the responsibility. It should be the government that could do the job. That is why, the

Dairy Development Corporation was established with the objectives enhancing milk based industry.