CHAPTER – I

INTRODUCTION

1.1 General Background of the Study

The landlocked country Nepal is home place of natural beauty. However, due to complicated land structure and landlocked nature, development is going on in the slow pace. In terms of development, Nepal is one of the least developed country of the world with a population of 28,901,790 and a per capita income about *US$* 311.09 that is underlying within the least ten poor countries (Central Bureau of Statistics, Ashadh 2064).

Although Nepal has adopted mixed economy, it is mainly dominated by agriculture. More than 79% of economically active population depend on agriculture sector and allied activities to make both ends meet. This sector contributes 35**.**11% to the GDP at factor cost and supplies 80% of all of the nation's industrial raw materials. More than 50% of the export comes from agriculture (Central Bureau of Statistics, FY 2064/65). So agriculture sector is the mainstay of Nepalese economy but only agricultural sector is not sufficient to derive the whole economy of the nation in today's global concept; an industrialization is the great signal of development.

An important pre-requisite for economic development and transition from traditionalism, an agrian economy to modernization is industrialization. It helps to accelerate the development of other sectors of the economy. It measures the value added components in the agricultural products and helps to sight the labour force from agricultural sector to industries and solves the problem of unemployment, earn foreign currencies, utilize the internal resources and modern technologies, raise the living standard of people and aids the long term development of nation. Thus, it is the industrial development where under-developed nations place the major hope of finding a solution to their problems of poverty, insecurity and over population and ending their newly realized backwardness. Hence, industrialization is immorally accepted as a strategy of economic development as well as fundamental goals. Nepal is in infant period of industrial development.

1.2 Introduction of Public Enterprises

Public enterprises play crucial role as vehicle of enhancement in industrial sector in developing countries like Nepal. Public enterprises are autonomous bodies that are owned and managed by the government and which provide goods or services for reasonable price. The ownership with the government should be 51% or more to make an entity of PE. United Nation defines PE as "These organizations namely governmental enterprise and public corporation, which are entirely or mainly and/or controlled by public authorities consisting of establishment which by virtue of their kind of activities, technology and mode of operation are classified as industries." The establishment of PEs balances the social as well as economical development of the country. PEs create the infrastructure for balanced regional development and public welfare. They are being loaded upon as effective instrument of program implementation of accomplishing the desired national development goals.

Nepal is still one of the under developed country which is still in its crawling stage of industrial development. So, PEs are not matter of choice, rather they are matter of necessity in Nepal. Nepal started its planned economic development in 1956 with the launching of first five years plan. Since then the number of PEs have been established and closed in the various fields of national economy. There were 64 PEs before the privatization program.

The fundamental problems arose in Nepalese public enterprises, industrial sector are; failure to develop it in a sustainable manner, lack of transparency, landlocked structure, political instability, shortage of capital and skilled manpower, lack of proper market, complicated rules and regulations, hard to compete with imported products etc.

1.3 Privatization & Foreign Investment Policy

Privatization, economic liberalization and globalization are the buzzword of the 1980's. Privatization which is a central feature of economic policy in both developed and developing countries was initiated in the United Kingdom during the Thatcher's Government period. Privatization can be understood at two levels; public policy of

privatizing economy (more private share in the economy) and privatization of state owned enterprises. The Privatization Act 1994, of Nepal highlights the involvement and participation of private sector in the management of the public enterprise. Selling, leasing or transferring government ownership to private sector is called privatization in the Nepalese context. Privatization also refers for the breaking up to the company into small, manageable, independent units so, that the performance of each unit can be assessed separately in all aspects (NTC 24th Anniversary Souvenior, 1999: 144) .

The main objective of privatization is to improve efficiency of public sector enterprises. According to Cook and Kurkpatrik, there are three main approaches of privatization:

- It is used to describe as changes in the ownership of an enterprise from the public to private sector.
- It involves the liberalization or deregulation of market economy to increase the role of competition.
- Sense of privatization and liberalization reforms has been linked in the economic policy.

Privatization gives a clear vision to the management to invest in more areas which may cause more profit. There are opportunities of growing in productivity and growth in standard of living.

Foreign investment plays a crucial role in the development of the poor countries like Nepal, it helps in the maximum utilization or mobilization of human and natural resources of the country, which in turn, helps to make the economy dynamic and competitive. Foreign investment is critical to enhance the transfer of capital, modern technology, develop competitive corporate culture and it is expected as a supplement to a domestic private investment. In this context, the government is encouraging foreign investment in Nepal by providing attractive incentives and facilities within a liberal and open policy. The foreign investment projects are mainly in hydropower, mineral exploitation, chemicals, tourism sector, specialized services and in food and beverage industry. The investment has been made mainly from India, Bangladesh, Pakistan, USA, Japan, China, U.K, Hong Kong, Korea.

The foreign investment and technologies transfer act lays down the basic law governing foreign investment in the country. The foreign investment and technology transfer act has undergone its first amendment in 1996, aiming at making the environment of industrial investment more congenial straight forwarded and transparent. The government has announced Industrial Enterprise Act, Foreign Investment and Technology Transfer Act 2049, Foreign Investment and One Window Policy 2049. There are now various industries which are operating under foreign investment.

Over the past many years, Nepal has been opened Foreign Direct Investment (FDI) in every business area except for these in the "negative list" provided by Foreign Investment and Technology Transfer Act (FITTA) 1992. Indian ventures lead the list with about 50% of total number running Foreign Investment Projects in Nepal. In terms of quantity of investment, Japan in second, USA in third, China in fourth, German in fifth, South Korea and United Kingdom in seventh place.

1.4 Statement of the Problem

A number of PEs has been established in the ownership of government in different sectors to prepare infrastructure, to produce required goods and provide services, to increase export products, to control price situation, to create employment opportunities, to increase government revenues and to contribute significantly in national development as well as to assist in the country's economic enhancement.

Although the PEs have achieved the main aims to some extent, they are not functioning in an efficient manner, notable to achieve financial capability and still depend upon government grants. The main causes of failure of such enterprises are as follows:

- Less utilization of capacity management
- Lack of integration of activities
- Lack of motivated, skilled employees
- Preparation of long and short range plans on adhoc basis
- Lack of result oriented objectives
- Big gap between top level and lower level employees

On the above ground, NEA can't stay far away from the following weakness and threatens:

- Unnecessary political interference
- Lack of internal skillful employees in technological sector
- Lack of sufficient finance
- Improper planning and implementation
- Leakage of electricity
- Unfair agreement to purchase power generated from private sector
- The accumulated amount of account receivable that is increasing year by year

Due to defects of PE and impact of globalization, Nepal government has followed competitive, liberal and open market economy. Nepal has been the member of WTO, but still the government is being unable to fulfill all the conditions and process of WTO.

As Nepal Government moved towards the policy of liberalization and foreign investment, DNPL was established as one of the great private manufacturing enterprise under Dabur India Pvt. Ltd. There were many obstacles to set up and the company in early stage and still suffering from various problems. Social ingredients like political commitment, peace, security and congenial environment, unjustified laws, tax provisions, lack of skilled manpower, infrastructure are serious causes that hamper to run DNPL smoothly.

On the pile of problems, improper cash management is one of the remarkable causes. Therefore this study attempts to analyze the nature of improvement in cash management and the linkage among different components and their variables. The study attempts to have an insight over the problem of cash management of NEA and DNPL:

- What is the liquidity position of the company and is the company able to maintain appropriate level of liquidity position?
- What is the relationship among influencing variables of cash management?
- Is the company able to collect and to make payment at a considerable time?
- What is the reason of absence of any formalized system of planning and cash budgeting?

- Why do the NEA and DNPL face a trade-off between the liquidity an profitability of the firm?

1.5 Objectives of the Study

Objective is the guideline for the study to be conducted in systematic manner. The major objective of the study is to examine the cash management behaviour of selected companies; NEA and DNPL.

It is an evident that management of cash is a daily task for NEA and DNPL as cash management is one of the most important process in any organization. A proper cash management considerably contributes to improve the overall financial performance and leads the organization toward success. In fact, the financial performance of the organization depends prominently in the effective use of resources. The organization always strives to use its resource systematically. So the study of cash management facilitates management to utilize of cash.

Moreover we can specify the following objectives:

- To identify the sources and utilization of cash
- To examine the existing internal control policy of cash transaction
- To identify the storage or excess of cash in the company and procedures of financing for the storage and investment of excess cash
- To critically analyze the cash management techniques practiced by the companies
- To analyze the cash flow structure
- To present overall cash management picture of the selected concerns

1.6 Focus and Rationale of the Study

For the economic development and social uplift of the country, the industrial sector plays a vital role. So the study of manufacturing enterprises can be useful. Nepal is still developing country and in this context, PEs and private enterprises both are matter of necessity in industrial sector. The fundamental sectors as hydropower (electricity), road transport, drinking water etc. need large amount of investment, management which can

be organized only under PEs. But in this globalization and liberalization era, only PEs are not sufficient; private enterprises are upcoming to address problems arise in PEs. In this regard the study holds a great importance.

The study is mainly concerned with cash management in manufacturing concern. The study of NEA and DNPL is taken as representative case. The study is expected to provide useful feedback to financial management of manufacturing concerns and also to different stakeholders. Moreover, this study can also be used as reference point by general public, creditors, investors, employees, shareholders, local community, researchers and others. It also keeps importance to those who are engaged in management faculty specializing in Finance.

1.7 Limitations of the Study

The research is done for the partial fulfillment of the requirements for the degree of Master of Business Studies (MBS). The main study area is connected only with the cash management of selected concerns. Various other sectors and field of NEA and DNPL those are equally significant from different point of view, but they are outside the scope of this research work.

Other factors that limit the scope of this research are as follows:

- The study enters in some managerial, financial and accounting aspects.
- Due to time and resource constraint the area of study could not be covered in pro-friendly.
- The study is mostly based on secondary data.
- No individual power house has been studied.
- The study covers only the last six years record.

1.8 Organization of the Study

The whole study is divided into five chapters as listed below:

Chapter-I Introduction

This chapter includes background of the study, brief introduction of NEA and DNPL, statement of the problem, objective of the study, significance of the study and limitations of the study.

Chapter-II Review of Literature

The second chapter consists and reviews the existing literature in the relevant areas and includes cash management, review of books, articles and previous studies.

Chapter-III Research Methodology

The chapter covers research design, population and sample, sources of data and data collection procedures and analysis tools.

Chapter-IV Data Presentation and Analysis

This chapter deals with the presentation and analysis relevant data, various financial tools and techniques that have used to analyze and interpret the results.

Chapter-V Summary, Conclusion and Recommendations

The final chapter sums up the result obtained through analysis and recommends some suggestions. Besides these, Appendix and Bibliography are included.

CHAPTER – II

REVIEW OF LITERATURE

Every research requires crystal clear idea about the problem of the study and its solution, which emerges from the review of literature. Scientific research must be based on past knowledge. The previous studies cannot be ignored because they provide foundation to the upcoming study (Wolff, H. and Pant, P.R. 1999:30). The continuity in research is ensured by linking the present study with the past research studies.

The main objective of this chapter is to review the research studies in the related area of this study and clarify the need for conducting further research. There are many research works under taken in manufacturing, commercial and trading sector in the Nepalese context. The available literature are reviewed relating to the field of the study i.e. conceptual framework, views of different management experts and of MBA/MBS level students who have carried out research study of different companies as well as the same company related to this study. This chapter is further classified into two parts:

1. Conceptual Framework
2. Review of Previous Research Studies

2.1 Conceptual Framework of the Study; Cash Management

Cash is lifeblood of the business, which is the most important component of the working capital. It is the most liquid assets, has vital importance to daily operation of the firm (Chandra, 1984: 282). Cash is the common denominator to which all current assets can be reduced because the other major liquid, that is receivable and inventory get eventually converted into cash (Khan and Jain, 1999:18.1). Cash provides liquidity but it does not pay interest; it is just one of the raw materials that is needed for the business. It is expensive keeping the capital tied up in large inventories of raw materials when it could be earning interest (Brealey and Myers, 1999: 884). This underlines the significance of the cash management.

Economists consider cash as the legal tender money issued by a determinate authority where as accountants concern the meaning of cash to look from the view point of balance sheet as the most liquid asset because cash is both the beginning and end of the working capital cycle; i.e. cash, inventories, receivables and cash. Cash is the money, which the firm can disburse immediately without any restriction. In fact, the term cash include coins, currency and cheques held by the firm and balance in its bank accounts. Sometime near cash item, such as marketable securities are also included in cash. In totality cash is crucial component of every organization and the organization must adopt such a policy that makes optimum cash management possible for efficient cash management.

The term cash management has a meaning according to the purpose which it is used and persons with varying branches of knowledge, it implies various meanings. Cash which has a cost whether received internally through generation of funds in business operations or externally through money market procurement is a liability and a wasted opportunity unless it is not put to its optimal use (Saksena, 1974:31) . Cash management involves managing the money of the firm in order to maximize cash availability and interest comes on any idle funds. At one end, the function starts when a customer writes a cheque to pay the firm on its accounts receivable. The function ends when a supplier, an employee or the government realizes collected funds from the firm on an accounts payable or accrual (Van Horne, J.C.,1991:394).

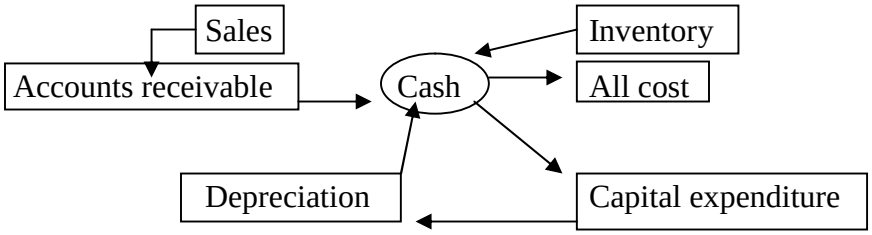
Cash management considers right quantity of money, right time to solve, right sources of cash and right cost of capital for effective planning and controlling of cash. The study of the cash management is therefore considered as an integrated approach to management science. It is not easy to meet effective cash management surrounded by cut throat competition, considering market and changing in technology. Its effective management is the key determinant of efficient working capital management. Cash management is in itself a decision making area within the framework of the overall current assets management. 'However, in a developing country, corporation has not given so much attention in assessing the time value of money. So, the methods of cash management practiced by corporation in developing countries may not be viable due to the deficiency

of knowledge or lack of consciousness among corporate managers to calculate the interest of fund lost if cash is not collected promptly' (Shrestha, 1980:52).

Cash management has certain variables, which are directly related to cash. Diagram of cash flow and its related variables are shown below (Blecke, 1981:50)

Figure 2.1

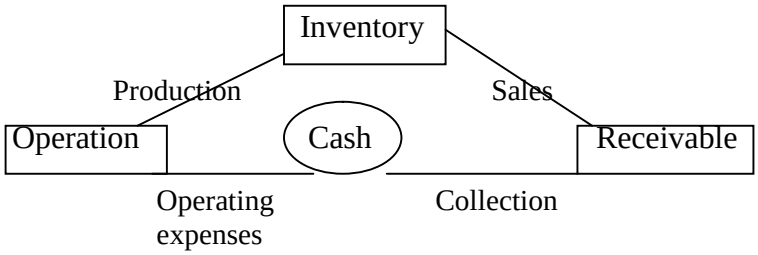
Diagram of Cash flow and its Related Variables



The above diagram shows cash is used for short term as well as long term. Here, Blecke pointed out the most related variables of cash are sales, receivable, inventory, operation cost, capital expenditure and depreciation. There is also separate cash inflow component and outflow components; operation cost, capital expenditure, and other costs. But the circumstance of this study is about short term cash management or it only takes on working capital component (Gerstenderg, 1960:285).

Figure 2.2

Diagram of Cash flow in Production Concern



Business with regular gross income in the form of the cash payments for goods or services need relatively small cash working balances. If the company with its sign “pay as goods enter” cannot meet demand for cash. The trouble is not with only the working capital but the whole business.

Cash Management involves the following aspects:

1. Cash Planning
2. Controlling cash inflows
3. Controlling cash outflows
4. Determining Optimum liquid balance
5. Investing surplus Cash

2.1.1 Cash Planning

Cash planning is a technique to plan and control the use of cash; it protects the financial condition of the firm by developing a projected cash statement from a forecast of expected cash inflows and outflows for a given period. Cash plans are very curtail in developing the overall operating plans of the firm (Pandey, 1997: 42).

Cash policies and procedures are not to be formulated with a view to satisfy different motives for holding cash; normal cash requirements as well as requirement of cash for irregular reasons are to be provided. The nature of the business, credit position, the amount of sales, time required in conversion of accounts receivable etc; all these determine normal cash requirement of a firm. On the basis of past experience, proforma balance sheet, the cash balance required for the future must be projected. Cash forecasts must be prepared for short term as well as long term period to estimate the requirements to cash. Cash budget is a summary statement of the firm's expected cash inflows and outflows over a projected time period. The projected time period may be a year, a quarter, a month, a week or even a day. It depends upon the nature of the business and the status of the firm's cash position. Cash budget throws light not only on the amount of inflows and outflows expected during a budget period, but also helps management in determining the future cash needs in planning and financing cash needs and in exercising control over cash and liquidity of the firm. If cash shortage is indicated by the budget, the same may be managed by arranging short term and if cash surplus is expected, it may be managed by investing the amount.

Cash flow statement also can be prepared to solve the above issued. It records and reflects the quantum and the nature of inflow and outflow of liquid funds. A cash flow statement is actually summarized form of cash book in which the actual receipts and payments are sectionalized. It can be prepared in the following two ways:

i. Showing in detail each item of inflows and outflows of cash irrespective of whether it is capital or revenue in nature.
ii. Showing the cash net inflows/ outflows from revenue operations as one consolidated figure and inflows/ outflows of capital nature separately.

2.1.2 Controlling Cash Inflows

Efficient cash management is possible only when the collection of cash is accelerated. The delay between the time customers pay their dues and the time cash is collected in the sense of becoming useable by the firm should be attempted to reduce to the extent possible. Collection process may be speeded up in any of the following manners:

i. The mailing time of payment from customers to the firm may be reduced.
ii. The time during which payments received by the firm remain uncollected may be minimized.

Controlling Cash inflows has been great challenge for NEA. The receivable balance is in increasing trend each year. Total receivable is extended up to equivalent to 5 months of sales in FY 2064/65. NEA is trying its best to accelerate collection of cash.

a. As part of the drive to strengthen customer focus and commercial orientation in its operations, NEA had implemented the profit center concept by enacting 'Distribution Center Operation Regulation 2059' in Feb. 2002; where by the Distribution Centers were required to operate on commercial principle and the center chiefs were made accountable in achieving specified performance targets. Reduction of system losses, shortening of average collection period, improvement in stock utilization, enhancement of quality customer service, improvement of overall efficiency, increase in sales and reduction of costs were defined as the major performance areas. Distribution and Consumer Services Business Group (DCS) is rendering service to NEA customers through 34 Distribution Centers and 32 branch

offices spread over 49 districts in the country. Thus NEA has adopted strategy to spread collection centers over different districts so that customer of a particular region may be directed to make their payments of electricity charge to a collection center.

b. In FY 2064/65 DCS has introduced Queue Management System (QMS) in its cash collection operations in Nepalgunj; Mahendranager and Dhangadi; with this 14 collection centers spread over different districts now have the QMS facility. NEA is implementing computerized Billing System in 20 revenue collections centers and extending the system in remaining 102 revenue collection centers. NEA will also implement Computer Assisted Interactive Voice Response Service in major branch offices which will facilitate customers to know their payment dues and to access other services related information over the telephone. Thus NEA has adopted to implement advanced technologies to facilitate customers for the payment of electricity charge.

c. NEA has adopted very much practical provision for public in payment of electricity charge. There is 3% discount on bill amount for the first seven days from Meter Reading Date. It really encourages the customers to pay the charge in time. For the 22^{nd} day from 8^{th} day customers have to pay same as in bill amount. Then after 22^{nd} day to 30^{th} day, customers will be fined 5% penalty similarly from 31^{st} to 40^{th} day 10% penalty and from 41^{st} day 25% penalty on bill amount. If customers don't pay the charge till 60^{th} day from Meter Reading Day, NEA has authority to disconnect the line to customer without any prior notice. Thus NEA is following promotional role to collect the electricity charge.

DNPL has the market from international level to rural local market. The products are consumed by public in daily life and they are being essential for all. The distribution channel for such products and payment collection process is significant task for DNPL.

a. DNPL has admitted dealers and distributors at different places for certain regional areas and decentralized the authority to sale the products as well as cash payment collection.

b. The bankers of DNPL are Nabil Bank Ltd., Standard Chartered Bank of Nepal Ltd. And Nepal SBI Bank Ltd. These banks have expanded branches over the country and internationally, too. So that DNPL has no problem in cash collection through banking channel.
c. DNPL has adopted the collection through messengers, mail and obviously electronic media.

To conclude, whether system of speeding up collections is adopted, the costs are to be compared with the benefits derived there from. In case the benefits of a particular system exceed the costs on a comparative basis, the same may be recommended by the finance manager for adoption by the firm.

2.1.3 Controlling Cash Outflows

Just as the golden rule for controlling cash inflows is accelerate the collection; similarly the golden rule for controlling cash outflows is 'slow down the disbursements'. Decentralized collection system is the best way to accelerate collections and centralized payment system is the best way to slow down the disbursements. Delaying the accounts payable to the extent possible can help the firm only if the firm's credit standing does not suffer. If an effective control over disbursements is exercised without using goodwill, cash availability is certainly enhanced. The following techniques can be fruitfully employed to slow down the disbursements as far as possible:

a. Centralized Payments: Centralized payment system is the most advantageous method of slowing disbursements. The payments should be through a single account maintained at the company's headquarters.
b. Paying the Float: Float is the lag between the time the cheque is written and the time the firm's bank receives it. A firm have less balance in its bank account but the firm may issue a cheque to its supplier because the supplier could present the cheque to its bank for payment only when he receives it after a few days. Moreover, after presentation to the bank, the bank could send the cheque for collection, which would also consume some time. The time by which firm's bank receives the cheque for payment can be used by the firm for utilizing fund for business purpose and exactly on the time when the payment has to be made by the bank the amount may

be deposited in the bank by firm. In case the period of time gap can be accurately estimated by the financial manager, the firm can certainly earn during the float period. However, the game is risky one and should be played with caution.

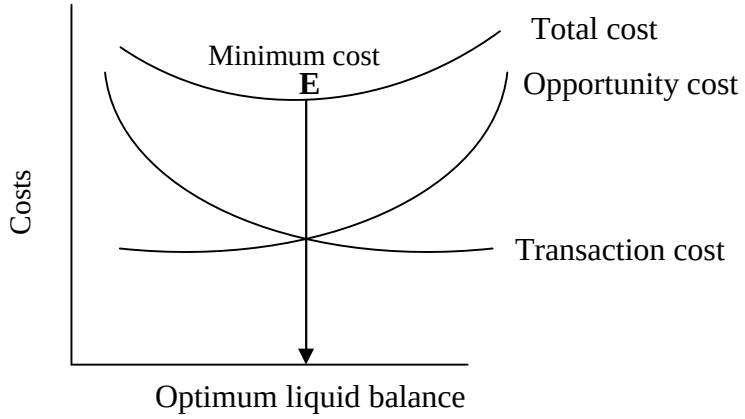
c. Payment on due dates only: Payment should be made on the due dates not before. For maximum use of cash, if cash discount is more lucrative, payments may be made early also depending upon the availability of funds. Delaying payments beyond the due date cannot be favored at all since the credit rating of the firm is endangered.

2.1.4 Determining Optimum Liquid Balance

Liquid cash balance (balance of cash and marketable securities) must be maintained at the optimum level. It is the level which gives the minimum cost of holding the liquid balance. Determination of such a level is very important for an efficient cash management. The liquid balance remains idle and therefore, it involves opportunity cost in the sense that the amount could have been put to the other hand, if liquid balance is short of the requirements, the firm may have to occur shortage cost. The firm may be required to forego cash discounts and pay higher rates of interest on borrowings. There is a danger of loosing goodwill and there is a risk of insolvency even. Thus, costs go down, and vice versa. The combination of opportunity cost and shortage cost give the total costs of maintaining liquid balance at various levels. The point which gives the minimum total cost is the point of optimum liquidity balance representing a trade off of shortage cost against opportunity cost. The following graph shows the position clearly:

Figure 2.3

Determining Optimum Liquid Balance



If the firm maintains larger cash balance, its transaction cost would decline, but the opportunity cost would increase. At point **E**, the sum of two costs is minimum. This is the point of optimum cost balance, which a firms should sack to achieve.

2.1.5 Investing Surplus Cash

The surplus cash balance should be properly invested to earn profits. The firm should decide about the decision of such cash between alternative short term investment opportunities such as bank deposits, marketable securities or incorporate landing (Pandey, 1997:89).

Cash, not required for the business or excess cash can be invested in near cash assets, such as in marketable securities which are readily converted into cash. Even though cash is temporarily idle, it should not be kept so because if the firm has an opportunity to earn interest through investing. If the amount and the timing of transaction can be determined, the firm can minimize the cost of maintaining liquid balances (Maheshwori and Mittal, 2003: 285).

2.2 Principle of Cash Management

The size of cash balance in the hand and in the account to be maintained depends on the behaviour of the operating cash flows of the firms. Each business operation is unique in the matter of cash collection and disbursement, as such, a firm needs to follow cash management strategies based on if, non financial strength and objective in the matter of cash management, financial manager are mainly concerned with the management of cash receipt, cash disbursement, minimization of cash balance, use of most inexpensive source of financing for cash balance and investment of excess cash balance. The standard principles of cash management are as follows:

i. To collect account receivable as soon as possible without annoying and loosing potential customers by establishing a system of electronics fund transfer, pre-authorized cheques etc.
ii. To delay payment as long as permitted without damaging the firm's credit rating by establishing controlled disbursement system

iii. To minimize cash balance without adversely effecting the business operation
iv. To manage most inexpensive source of financing to meet short term cash deficiency by optimal balance between cost and risk
v. To invest short term excess cash in most efficient market portfolio of securities such money market instruments (Pradhan, 1992:98).

2.3 Cash Management Models

2.3.1 Baumol Model

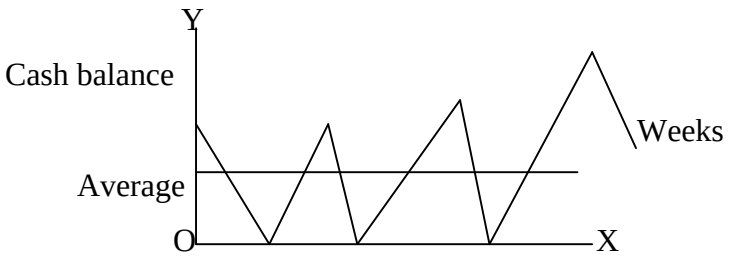
In view of minimizing the opportunity cost of holding cash and maximizing the return on available funds, the cash balance should be maintained at a minimum level and the funds not required for immediate use is invested in the marketable securities. Baumol Model is one of the methods that can be used for this purpose. Baumol identifies the cash maintenance as analogues to inventory maintenance and demonstrates that the model of economic order quantity that is applicable to inventory management is perfectly applicable in cash management too. Baumol model is based on the following assumptions:

i. the cash is used at a constant rate,
ii. the periodic cash requirement is more or less and
iii. there are some costs such as opportunity cost that increases and other costs such as transaction cost that decreases as cash balance increase (Baumol, 1952: 545-556).

Because of the assumptions (i) and (ii) the graphical representation of cash position looks like as follows:

Figure 2.4 (A)

EOQ Model of cash balance

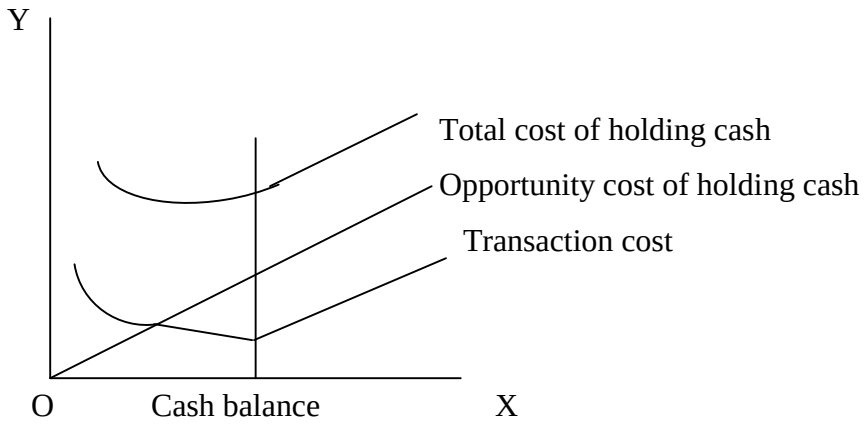


Unlike the case of inventory purchase, the cash transfer does not take time. Therefore, it is normally not required to maintain safety stock of cash.

Given its assumption, the model prescribes an optimal size of cash balance and the optimal size of cash transfer from marketable securities to cash account or borrowing. What matter for a firm is the total of opportunity cost and transaction cost? Therefore, the objective of model is to minimize the total cost. The figure below shows the relationship between the average size of cash balance and various costs associated with the cash maintenance.

Figure 2.4 (B)

EOQ Model of Cash Balance



Mathematically the optimal size of cash transfer from investment accounts or line of credit, E is determined as follows:

$E = \sqrt{\frac{2FR}{K}}$ where, F = Fixed transaction Cost

R = Requirement of cash per period

K = Opportunity cost of holding cash/ interest rate on borrowing

The Baumol model can be appropriately applied in case of predictable uniform net cash flows, but not in the situations characterized by irregular and uncertain cash flows. The average cash balance (c) is calculated as follows:

$$C = \frac{E}{2} + M$$

where, M = minimum cash balance / cash for precautionary purpose

2.3.2 Miller–Orr Model

The size of cash requirement depends on the pattern and degree of irregularity of uncertainly of receipt and payments. Merton Miller Daniel Orr have developed a model known as Miller-Orr Model, that takes into account the realistic pattern of cash flows and prescribed when and how much to transfer from cash to investment account and vice versa.

The model is based on the assumption that the daily net cash flows are random in size as well as in the negative or positive flows and are normally distributed in the long term. The model sets a range of high and low limits within when the cash balance is allowed to fluctuate and sets the target cash balance (Z) in between these two limits (Miller, 1996: 413-435).

The model suggests bringing the cash balance to target balance whenever it drifts away to the limits in either direction. The rule is to transfer the amount of cash that is necessary to bring the cash position to its target balance slides down to the lower limits, to transfer the cash in excess of target balance to the investment account whatever it reaches to the upper limits (U). The (L) in the model is set by either managerial decision to meet emergency need to mountain compensating balance in the account. Mathematically the model is set as follows:

$$Z = \left(\frac{3F\sigma^2}{4i}\right)^{1/3} + L$$

The (L) is given, the model calculate the 'Z' and 'U'

$$U = 3\left(\frac{3F\pm^2}{4i}\right)^{1/2} \Gamma L$$

The average cash balance is obtained as follows:

$C = \frac{4Z-L}{3}$ where, Z = target cash balance

F = Fixed transaction cost per transaction

σ^2= Variance of net daily cash flows

I = daily investment

L = lower limit

2.3.3 Orgler's Model

According to this model, an optimal cash management strategy can be determined through the use of a multiple linear programming model comprises the following three societies:

i. selection of the appropriate planning horizon,
ii. selection of the appropriate decision variables and
iii. formulation of the cash management strategy itself.

The advantage of the linear programming model is that it enables co-ordination of the optimal cash management strategy with the other operation of the firm such as production and with less restriction on working capital balance. (Orgler, 1970:220)

The model basically uses one year planning horizon with twelve months period because of its simplicity. It has four basic sets of decision variables which influence cash management of a firm and which must be incorporated into the linear programming model of the firm.

These are
i. payment schedule,
ii. short-term financing,
iii. purchase and sale of marketable securities and
iv. cash balance itself.

The formulation of the model requires that the financial manager first specify an objective function and then specify a set of constraints. Orgler's objective function is to minimize the horizon value of the net revenues from the cash budget over the entire planning using the assumption that all revenue generated is immediately reinvested and that any cost is immediately financed. The objective recognizes each operation of the

firm that generates cash inflow or cash outflow as adding or subtracting profit opportunities for the firm. In the objective function decision variables, which cause inflow such as payment on receivables, have positive coefficient, while decision variables, which generate cash outflows, such as interest on short term borrowings, have negative coefficient.

An example of the linear programming model is as follows:

Objective function: Max. profit = $a_1x_1 \Gamma a_2x_2$

Subject to: b_1x_2 production

b_2x_2 constraints

$c_1x_1 \Gamma c_2x_2$ < cash available constraints

$d_1x_1 \Gamma d_2x_2$ > current assets requirement constraints

Very important feature of the model is that it allows financial managers to generate cash management with production and other aspects of the firm.

2.3.4 Cash Management Model

In this model, it is assumed that the firm on average is growing and is a net user of cash. The holding cost is the interest foregone a cash balance held. Assuming that expenditure occurred evenly over time and that, cash replenishment comes in lump sums at periodic intervals (Weston and Copeland, 1990:784-785). The optimal size of the cash transfer is formulated as follows:

C = $\sqrt{\frac{2bT}{i}}$

C = the optimal size of the balanced

T = the total cash usage for the period of time involved

b = the most of the transaction in the purchase

i = the applicable interest rate

2.4 Factors Determining Cash Needs

The factors which determine cash needs are described in the following points:

2.4.1 Synchronization of Cash Flow

With a perfect synchronization of cash inflows and outflows and a higher degree of predictability, cash balance could be held to low levels. An example of synchronization demonstrates low cash flows can be improved through more frequent requisitioning of fund to divisional officers from the firm's central office. If funds are requisitioned once a month, it helps to explore the possibility of requisitioning of funds on fortnightly, or weekly of daily basis, moreover, effective forecasting can be achieved. It will enable the firm to economize on the amount of money it must borrow and thereby keeping interest expenses to a minimum. It is necessary to understand now that there are different types of float. The float is the difference between book cash and bank cash, representing the net effect of changes in process of clarity. The first types of float are disbursement float. When a cheque is written, it declares book balance but does not immediately change available balance. Similarly, the collection float refers to the reset of cheque received, which increases book balance but not immediately change available balance. The net float is the overall difference between the firm's available and its book balance (Pradhan, 2004: 420).

2.4.2 Short Cost

Another general factor to be considered in determining cash need is the cost associated with a short fall in the cash needs. The cash forecast presented in the cash budget would revel period of cash shortages. In addition, there may be some unexpected short fall. Every shortage of cash, whether expected or unexpected involved a cost depending upon the severity, duration and frequency of the shortfall and how the shortage is covered. Expenses incurred as a reset of shortfall are called short costs. The costs included in the short cost are following:

- Transaction cost associated with raising cash to tide over the shortage, this is usually the brokerage incurred in relation to the sale of some short term near cash assets such as marketable securities.

- Borrowing cost associated with borrowing to cover the shortage, these include items such as interest on loan, commitment charge and other expenses relating to the loan.
- Loss of cash discount, that is a substantial loss because of temporary shortage of cash.
- Cost associated with deterioration of the credit rating which is reflected a higher bank charges on loans, stoppages of supplies, demand for cash payments, refusal to sale, loss of image and the attendant decline in sales and profits.
- Penalty rates by bank to shortfall in compensating balances (Khan and Jain, 2003:82).

2.4.3 Excess Cash Balance Cost

The cost of having excessively large cash balance is known as the excessive cash balance cost. If large funds are idle, the implication is that firm has missed opportunities to invest those funds and has there by lost inters which it would otherwise have earned, this lost of interesting primarily the excess cost **(**Khan and Jain, 2003:82).

2.4.4 Procurement and Management

There are the cost associated with the establishing and operating cash management staff and activities. They are generally fixed and are mainly accounted for by salary, shortage, handling of securities and so on (Khan and Jain, 2003:83).

2.4.5 Uncertainty and Cash Management

Finally, the impact of uncertainty of cash management strategy is also relevant on cash flows cannot be predicated with complete accuracy. The first requirement is a precautionary cushion to cope with irregularities in cash flows. Unexpected delays in collections and disbursements, default and unexpected cash needs.

The impact of uncertainty on cash management can, however, be mitigate through (i) improved forecasting of tax payments, capital expenditure dividend, and do on (ii) increased ability to borrow though over draft facility. (Khan and Jain, 2003:83)

2.5 Motive of Holding Cash

If cash does not earn any return, why it is held; there are three primary motives of cash balance.

2.5.1 Transaction Motive

This refers to holding of cash meet routine cash requirement to finance the transaction which a firm carries in the ordinary course of business. A firm enters into a variety of transaction to accomplish its objectives which have to pay for in the form of cash. The requirement of cash balance to meet routine cash needs is known as transaction motive and such motive refers to the holding of cash to meet anticipated obligation whose timing is not perfectly synchronized with cash receipt.

2.5.2 Precautionary Motive

The cash balance hold in reserves for random and unforeseen fluctuation in cash flows are called as precautionary balances. In other word precautionary motive of holding cash implies the need to hold cash to meet unpredictable obligation. Thus, precautionary cash balance serves to provide a cushion to meet unexpected contingences. The more unpredictable are the cash flows. Another factor which has a bearing as the level of such cash balance is the availability of short term credit. If a firm borrows at short notice to pay for unforeseen obligation, it will need to maintain a relatively small balance and vice versa.

2.5.3 Speculative Motive

It refers to the desire of a firm to make advantage of opportunities which presents themselves at unexpected moments and which is typically outside normal course of business. While the precautionary motive is defensive in nature in that firm must make provision to tide over unexpected contingencies, the speculative motive represents a positive and aggressive approach. The firm's aim to exploit profitable opportunities and keep cash in reverse does so. The speculative motive helps to take advantages of

- An opportunity to purchase raw materials at a reduced price on payment of immediate cash,

- A change to speculative on interest rate movement by buying securities when interest rates are expected to decline,
- Delay purchases of raw materials on the anticipation of decline in prices and
- Make purchase at favorable prices.

2.6 Review of Books

In this section an attempt has been made to review some books on financial management, which deal with management of cash.

Well known Indian Professors M.Y. Khan and P.K. Jain define cash management is one of the key areas of working capital management. Apart from the fact that it is the most liquid current assets, cash is the common denominated to which all current assets can be reduced because the other major liquid assets get eventually converted in the cash. (Khan and Jain,1978:664)

For the cash management, A well known Indian Professor I.M. Pandey (1999) has described some conceptual ingredients, which are based on his various research studies. We can learn lesson and it is also helpful for this study indeed. He described various concepts of cash management which are as follows: Facts of cash management, Motive of holding cash, Cash planning, Cash forecasting and budgeting, Managing the cash flows, Determining the optimum cash balance.

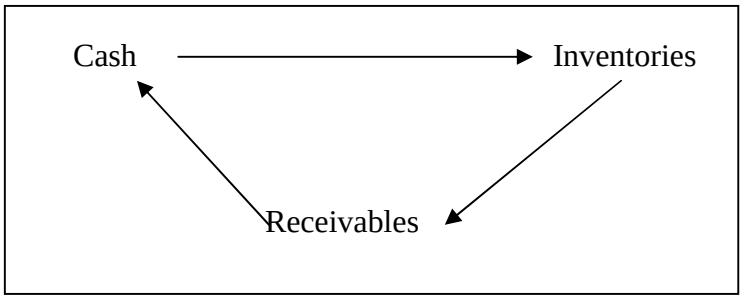
The well known professors Weston and Brigham have given some theoretical insights into current management (cash management) after their various research studies provides on it. The bond conceptual findings of their studies provide sound knowledge and guidance for the further studies and naturally to this study as well. They explain in the beginning the motives for holding cash specific advantages of adequate cash synchronization of cash flows, expending collection and cheque clearing using float, cost of cash management, determining the minimum cash balances, compensating balance, overdraft system, cash management, marketable securities, arrangement of account receivable, credit policy, evaluating changes in credit policy, substitute for cash criteria for selecting securities investment alternatives.

Some theoretical concept of cash management in relation of working capital has been taken from the book "Financial management Accountancy written by S P Jain and K L Narang. First of all it is obvious that cash is component that correlated with working capital, which is known to be current asset.

The circulation nature of current assets can be depicted as figure given below.

Figure 2.5

Circulation Nature of Current Asset

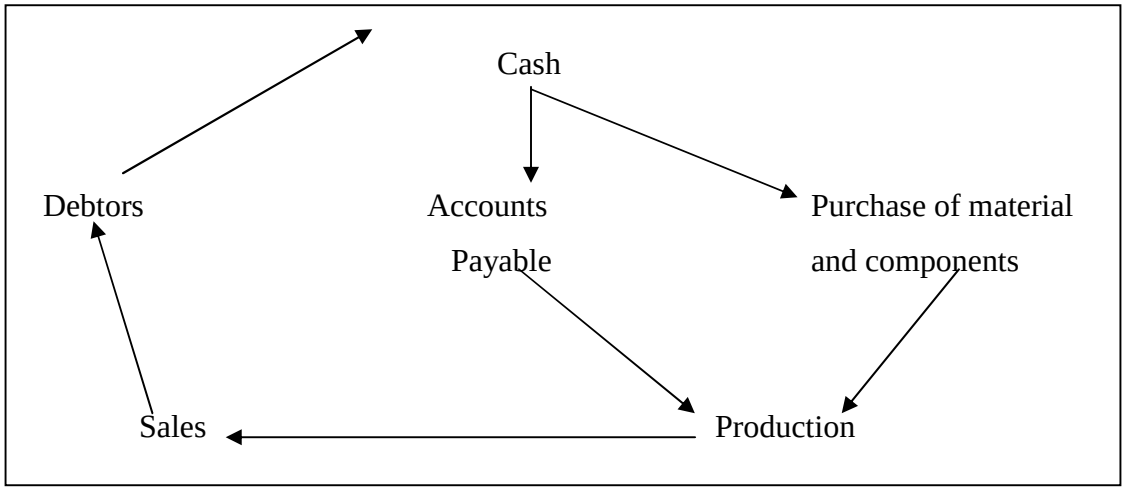


"A firm begins with cash which is used for purchase of raw material and bought in components. Material and other operating supplies can also be purchased on credit, which in turn generates accounts payable. Further cash is expected to pay the labour and other manufacturing costs and other further trade credit obtained to enable production of finished goods, which are eventually sold on credit giving rise to accounts receivable. The collection of receivables brings cash into the firm and creditors are paid. The average time which elapses between the acquisition of material or services entering into the manufacturing process and the final cash realization constitutes an operating cycle (Jain and Narang, 1988:174-175).

The working capital cycle can be presented as given below.

Figure 2.6

Working Capital Cycle



Therefore, the nature and inter-relationship of working capital can be best understanding by the above figure of operating cycle of the firm.

We also received from theoretical concept on the component of cash management from book by Van Horne. He has categorized the various component of cash management. These are the functions of cash management : managing collection, transferring funds, concentration banking and other procedures, lock-box system, control of cash disbursements, payroll and dividend disbursement, zero balance account, electric fund transfer, balancing cash and marketable securities, compensating balance and fees, model for determining optimal cash, inventory model, stochastic model, a probabilities approach, optimum level of cash (Van Horne, 1990: 389-415).

The relation between sales growth and need to finance current assets is close and direct. The growth of sales means generation of more funds provided such sales constitutes cash sales and this enables corporation to be self supporting without any need to tap additional funds for current assets but if there are more credit sales, the size of accounts receivable rises so that for the short period firm have to manage funds either through effective credit policy to have quick collection or arranging a bank loan for short period. The amount of

earning also decide how much to interest in current assets as more earning lead to more inflow of cash enabling corporation to meet cost of operation easily (Weston and Brigham, 1973:138).

Decline in earning put burden of liquidity and additional investment in current assets. The highly developed money market and efficient banking services make easy availability of credit at any time when it is needed and in such situation corporation can avoid maintenance of higher cash balance and also can easily discount accounts receivable. But lack of these services compel corporation to follow precautionary policy of holding more current assets. The turnover of corporation is equally important to be considered as quick turnover, which means ability of corporation to have fast process of conversion, makes no burden of liquidity and they're by helping to undertake further production expansion. But prospect of business has much to do in the overall evaluation of current assets to achieve better results. During the peak seasons corporation have to keep more stock of commodities readily available to meet increasing demand and it can generate cash quickly. However, during the condition of recession, the current assets should be converted into cash. The taxation policy and other subsequent developments that take place within a giver cycle also affected management of current assets. In view of consideration of the above factors, current assets management involves a common set of problems concerned with the size of investment required in those assets (Pandey, 1999: 893).

In the type of financial manager should not only attain towards the aspect of profitability but he should also turn towards ensuring the liquidity of the corporation. Since every business is a constant debtor an enterprise borrows funds from financial institution and purchase merchandise on credit, there by are fewer obligations to the government. Thus every enterprise owns liabilities unless the payments is made at the maturity of the particular debt, the reputation of the firms is tarnished at worst the creditor may force the firm to terminate its business (Solomon and Donald, 1964:13).

Liquidity is the lifeblood of a corporation a want of cash is the only factor, which may free it out of business cash flow in a corporation by direct cash sales of assets. It flows out indirect purchase and payment to creditors, wages and other costs. Cash also flows in the purchase and payment to creditors, wages and other equipment. In the payment of taking interest on important bearing on the overall liquidity position and failure of maintaining sufficient degree of liquidity may cause interruption of regular operation. Besides making corporate manager's unable to pay obligation in time, while each situation in unique the one common threat that runs through all corporate in crisis is a lack of liquidity (Goldress and Rogner, 1976:24)

A cash budget shows the planned cash in flows, outflows and ending position by interim period for a specific time span. Most companies should develop both long term and short term plans about their cash flows. The short term cash budget is included in the annul profit plan. A cash budget basically includes two parts: the planned cash receipt and the planned cash disbursement, planning cash inflow and outflow give the planned beginning and ending cash position for the budget period planning the cash inflows and outflows will include need for financing probable cash deficit or the need for the investment planning to put excess cash to probable uses (Welsch and Ronald, 1973:433).

As such whatever cash a corporation has must utilized efficiently to meet obligation of interest payments if cash is obtained from borrowing and it is received through issue of shares the corporation has responsibility to owners in assuring them to pay favorable rate of return since cash is not easy to obtain the available cash must be prudently spent without incurring loss. Although it is impossible to formulate a set of management assets policy of universal applicability, one policy or rule that appears to be unanimously accepted is that cash must be conserved (Kent, 1964:128).

The cash budget is forward looking. It seems to estimate future cash receipts and cash disbursement.

The primary purpose of cash budget is to:

1. Give the probable cash position at the each period as a result of planned operation.
2. Identity cash excess or shortage by time periods.
3. Established the need for financing and or the availability of idle cash for investment.
4. Co- ordinate cash with total working capital.

A firm's major needs of cash are the following:

1. Transaction Needs: A firm needs cash to carry out the day to day function of the business.
2. Contingency Need: The firm must be prepared for contingencies and should be concerned with unexpected occurrences or emergencies that require cash.
3. Opportunity Needs: This involves the chances to profit from having cash available.

Collectively, these activities are usually called cash management, which in and of it should be cost effective. Cash management in large company is so important that the related policies and process should be subject to internal audits (Leshe, 1987:33).

2.7 Review from Related Studies

Cash management is regarded as a cardinal part of working capital management, the thrust for a separate theory in this area was attempted by many economists, since 1950's. Some of them enunciated cash management theories, whereas others extended the common run approaches with new techniques.

2.7.1 Review of Journals

Baumol (1952) introduced deterministic approach to determine the level of cash balances based on Economic Order Quantity of early inventory model. He assumed that the firm faces fixed cash inflow and out flow patterns and sought to minimize the cost of holding cash necessary for its transaction. Baumol concluded that cash will be demanded by

rational individuals in proportion to the square root of the value of transactions, given the price level. Tobin (1956) interposed interest elasticity of transaction demand for cash with a view to maximizing individual's interest earnings net of transaction cost. This is different from Baumol's propositions, but the results are quite similar with Baumol's equations.

Friedman (1959) introduced the behaviour of aggregate cash balance and its velocity. According to him "Business holds cash as a productive resource." Friedman explored the question of whether money is like an inventory holding, or is comparable with fixed capital. He concluded with the finding that cash balances are analogous to fixed capital rather than to inventories and that some other assets or liabilities serve as shock absorbers for business as for consumers. Seldon (1961) extended the study and determined the relationship between velocity of cash holding with the asset size of the firm, and directed attention to the velocity of money and its inverse relationship with the assets size of the firm. According to Seldon, the velocity is defined as the ratio of total outlays including tax, and dividend payments but excluded capital expenditures, debt retirement and securities purchase from year-end cash holdings. According to him, the cost of holding money is much less for large firms than for small firms.

Advanced and research based journals of finance are hardly found in Nepal. Very limited numbers of journals of finance cannot cover its full dimensions. Though, in this section articles from various national and international journals are reviewed and the attempt is concentrated to build the sound conceptual framework of subject matter, which may help for the success of the study.

The Journal of finance, published bimonthly by American Finance Association for many decades is taken into account. In its Volume XV of September 1960, Joseph C. Schabacker, at his article, "A study of cash planning in small manufacturing companies" is reviewed here, which is as follows:

Joseph C. Schabacker (1960), A study of cash planning in small manufacturing Companies. Several significant investigations have been conducted to explain the causes

of failure among small business. The most widely accepted theory forthcoming from such studies is that poor internal management is the predominant factor in failure. Businesses do not fail merely because they are small.

The purpose of this study is to explore one specific phase of the managerial job in small companies, namely the forward planning of cash requirements. Many small business owners allow themselves to be pressured into adhoc decisions as a result of no advance planning. The research was designed to test the hypothesis that "the financial health of a small manufacturing firm is directly related to the amount of formal cash planning which done".

A formal cash plan is here defined as a written forecast, as opposed to mental estimates. The definition of a small manufacturing company is a firm with 150 employees of less.

The solution of this problem involved a determination of the kinds of financial, planning feasible; an analysis of how much is actually being done, and the formulation of a minimum amount of financial planning that should be accomplished.

A random sample of twenty-eight small machinery-manufacturing companies in the Los Angeles area was investigated. Financial and operational data were obtained through questionnaires and personal interviews with the president (or senior executive). In addition, information was collected from each company's outside auditor, from the bank loan officer, and from Dun and Bradstreet files.

Statement analyses were prepared for the Dun and Bradstreet fourteen financial ratios for each company for the period 1951-56. These ratios compared with appropriate industry results by year as published by Dun and Bradstreet. A "Score" was then developed for each company representing (a) over-all operating results and (b) net profits results.

The response to the questionnaire items by the three parties and the comparative ratio analysis results were then analyzed to determine whether the use of formal (written) cash planning resulted in higher profits or improved operating results.

This investigation of twenty-eight small machinery-manufacturing companies in Los Angeles indicates that there is no direct correlation between higher profits in the small company and the act of formal(written) cash planning. The evidence does not support a preconceived notion that the eight out of twenty-eight presidents who used written cash forecasts experienced any greater profit results or over-all operating improvements thereby. Other variables in the business environment appear to have had a stronger influence on profitability.

However, there are times in life of a small company when formal cash forecasts seem to be crucial. These include (a) when a company is undercapitalized, (b) when a leading institution is approached for a loan and (c) when a company is contemplating or experiencing a growth stage.

Evidence in the study pointed to a need for more assistance in matters of financial planning on the part of bankers and certified public accountants for their small- business clients. (A dissertation completed at the university of California at Los Angeles in 1989). Similarly, quarterly published journal of economics and management quality are also reviewed here.

W.J Baumol (1952), at his article "The Transaction Demand for Cash : An inventory Theoretic Approach" on quarterly journal of economics identifies cash maintenance as analogues to inventory maintenance and demonstrates that the model of economic order quantities that is applicable to inventory management is perfectly applicable in cash management too. He has presented model in view of minimizing the opportunity cost of holding cash and maximizing the return on the available funds, the cash balance should be maintained at a minimum level and the funds not required from immediate use be invested in the marketable securities.

Similarly, M.H. Miller and Orr. D. (1996), in their article "A Model of the Demand for money in Firms" on quarterly journal of economic, have developed a model known as

Miller-Orr model takes into account the realistic pattern of cash flows and prescribed when and how much to transfer from cash to investment account and vice-versa.

Taking cognizance of the fact that the optimization of the operating decision subject to various financial constraints is possible, Charnes, Cooper and Miller (1959) had applied Linear Programming Model for the first time to finance in their article "Application of Linear programming to financial budgeting and cost of Funds". Moreover, their model determines the opportunity cost of long-term funds. The major quantitative conclusions that are obtained from the above Linear Programming model is considered as a major input for capital investment analysis. Therefore, there model is too general to be applied to the short-run cash management problems.

Ijiri, Y, Levy, F.K. and R.C. Lyon (1963) in their article "A Linear Programming Model for Budgeting and Financial Planning" on journal of accounting research, have had extended the first linear programming model established by Charnes, Cooper and Miller, with the marketable securities transactions, but in a very general form and is limited to single period.

Birman and Mc Adams (1962) in their article "Management Decision for Cash and Marketable Securities" on graduate school of business have applied the Economic Order Quantity model like Baumol. Bailey (1962) considered cash balance held by the firm to be a productive asset similar to any other asset. He stated that "…cash balance is held by business firms is obviously a productive resources similar to any other. Presumably, this is because … they reduce the other resources required for a given level of production, by facilitating payments". Meltzer (1963) adjudged wealth as an explanatory variable of cash balance determination and sales as the measure of wealth. He hypothesized that the amount of money held by firms is the function of the market rate of interest and wealth. He concluded that "the results suggest strongly that the cross-section demand for money by firms is a function of sales, to a first approximation linear in the logarithms and unit elastic." Frazer (1964) examined the percentage of cash to liquid assets as a function of total assets of firms, and presented evidence on the question of economics of scales. He concluded that cash varies less than proportionately with the assets of firms.

Whalen (1965) in his article "A Cross Section Study of Business Demand for Cash" on journal of finance has found the speculative demand for money may be considered as a function of wealth. Assets and sales are the explanatory variables to determine the cash balance of the firm. Since Whalen attempted to incorporate assets as well as transactions into the demand function, the analysis presented by him in order to determine the cash holding of the firm differed from Meltzer's model. He hypothesized that the cash holding of the firm is not only for transaction purpose but also as an investment. Miller-Orr (1966) assumed that a firm's cash flows could be analyzed by a stochastic process. He followed Baumol's model, without question and deduced that the firm's pattern of payment and receipt is fixed and that the cost of non-payment is infinite. He added that the firm or the individual is presumed to hold that amount of money which minimizes the interest cost. He further advised holding money rather than bonds, since there is transaction cost associated with the conversation of bonds into money. This reduces the cost of transaction and maximizes profits by an equivalent amount.

Sprenkle (1967) in their article "Large Economic Units, Banks and the Transaction Demand for Money" on quarterly journal of economic, have assumed that money had all the attributes of ordinary inventoried goods. Vogel and Maddala (1967) assumed that the demand for cash, government securities and liquid assets is a function of wealth determination. According to them the firm is assumed to allocate its financial holdings among assets so as to equalize the marginal rates of return, adjusted for risk involved. The results differ from Meltzer only in that Meltzer estimated the demand equation for individual industry for each year, whereas, Vogel and Maddala employed the dummy variables and estimated pooled regression with yearly data. They had also included assets as an explanatory variable in the demand for money equation and determined the economics of scale. Nadiri (1969) suggested that the estimated of elasticity of demand for money with respect to sales or production are unequivocally equal to unity.

Ram M. Saksena at his article, "Towards more efficient cash management" on quarterly journal of management quality identified that the term cash management has a meaning

according to the purpose for which it is used and persons with varying branches of knowledge implies various meaning of cash. Economics considered cash, as the means to satisfy human wants, the lawyer's view that cash is the legal tender money issued by a determinate authority. However, our concern of the meaning of cash is an asset constituting the most liquid item among all the assets. But to obtain cash involves cost because corporation has to rise through issue to share or by borrowing with interest. In through generation money market procurement is liability and wasted opportunity unless it is not put to optimal use.

2.7.2 Review from other Independent Study in Nepal

There are few independent studies available in the research purpose.

The study conducted by Radhe Shyam Pradhan in a topic of "The demand for cash by corporations" has been useful to take knowledge regarding demand of cash.

There are two studies in which one is conducted by Radhe Shyam Pradhan and Kundan Dutta Koirala, in a topic of "Aspect of working capital management in Nepalese corporations". Radhe Shyam Pradhan conducts another, in a topic of "Demand for working capital by Nepalese corporations".

Above studies has provide us a little but more knowledge for our research purpose. Reviewing various books, journals, thesis and another independent studies by different authors related to the topic could be concluded that all those works performed are related to the study of cash management.

2.7.3 Review of Previous Opinion, Journals, Magazines/ Media

Kantipur National Daily (2062) prepared by an international Auditing institutions price water Kooper named CSC and company has concluded the core reasons which are driving to NEA in the road of climbing loss published in Kantipur National Daily on 30th March 2006, are as below:

1. Total loss is one–fourth of total capital i.e. about Rs, 5Arab 6 Crore and that is in increasing trend.

2. Accounting statement is unsystematic.
3. Electricity loss and leakage is about 24.83% of total available power which is about 15% more than previous year.
4. There is no accounting record of the number of about 800 vehicles in the data of assets.
5. Purchase price from various foreign invested or private power sectors is in variation and high rate.
6. According to report, last year, NEA could not able to use 49 crores 81 lakhs kilowatt per hour electricity and they went on wastage.

2.7.4 Review of Previous Thesis

In this section of the review of these relating to cash management, have been made.

Shrestha, S.L. (1994) conducted a research study on *"Working Capital Management of Bansbari Leather and Shoe Factory*". The analysis of the factory was based on the secondary data. The objectives of this study was to operate with setting certain sales target and make regular inspection to find out the excess or deficit of current assets and to adopt suitable credit policy with responsible discount and should have appropriate cash balance working capital.

It was observed that the goal of working capital is to manage each of the firm current assets effectively in order to maintain the firm's liquidity while not keeping any assets as to high level. Cash is the most liquid assets, if the common denominator all can be reduced because the major liquid assets get eventually converted into cash.

Corporate must adopt such a policy that makes optimum cash management possible for improving the efficiency of cash management, effective method of collection and disbursement should be adopted. However in a developing country corporation has given not so much attention in assessing the time value of money so certain method of efficient - cash management practiced by corporation in developed countries may not be viable in view of either the deficiency of knowledge or lack of consciousness among corporate

managers of developing country to calculate the interest lost or fund lost if cash is not collected promptly.

The cash management of corporation is significant enough to have the best use of idle cash balances and to take the advantages from the opportunity interest in cash velocity determined by sales volume and turnover of assets. Corporate manager must be familiar with the cash cycle to undertake measure for improvement of collection and disbursement.

The various motives for holding cash and determination of safety level based on normal periods and peak period must be adequately considered. The cash flow balance of corporation can be sufficiently improved by increasing volume of sales and turnover of total assets. But on the whole measure should be taken to have efficient collection combined with disbursement.

Pradhan, S. (1989) in his study on *"Working Capital Policy of Manufacturing Public Enterprises (MPES) in Nepal"* sought to sort out the problem of law economic performance and poor financial management in MPES and examine whether or not there was any association between the various aspects of working capital policy in financial management and the poor financial management performance of MPES and also the lack of appropriate assets mix policy in MPES. Hence this study deals with liquidity position, utilization of working capital, profitability position, sources of financing of current assets and determinants of working capital in MPES. For the study he had considered fine MPES for the study.

The major findings of the study are:

1. Almost all MPES had followed a moderate working capital approach. The holding of cash and receivables in relation to total asset was decreasing where as the inventory was increasing.
2. The selected MPES had sufficient liquidity.
3. There are improvement in the use of current assets in selected MPES there was high turnover of cash and receivable in comparison to inventory.

4. Capacity utilization was the significant factor while sales, cash flow cycle and interest rate were not significant in working capital determinations.

To the end he had made some suggestion for the improvement of working capital management and efficiency in the MPES. He suggested for aggressive sales promotion policy, indicated the need to match production and demand schedule, adoption of standard costing as well as marginal costing techniques, formulation of sound working capital policy and training to financial employees to acquaint about latest development in the area of working capital management.

Previous thesis, which are to some extent related to the proposed study, are also taken into consideration. In this context, three thesis, 'The cash management: A case study of Gandaki Noodles Pvt. Ltd.' by Gautam Biranji and Ramesh Prithi with the title 'A study on cash management of ‘United Mission Hospital Tansen' along with Subarna Lal Bajracharya with the title 'Cash Management on Nepalese Public Enterprises' are reviewed here onwards respectively.

Gautam, B. (1999) conducted this study on "*Cash management of Gandaki Noodles Pvt. Ltd.*" by using six years data of 2048/049 to 2053/054. Among different objectives, they are as follows:

'To analyze the cash disbursement needs, minimize funds committed to cash balance and access the credit policy adopted in GNPL and their impact and relationship to each other.'

Prithi, R. (2003) conducts another study in the title of *"A study on cash management of United Mission Hospital Tansen* " by using six years data of 2054/055 to 2059/060. Out of different objectives, one is 'To have true insights into its cash management and to present the existing cash management and to expand few suggestions on the basis of analysis to improve the cash management for future.'

Bajracharya, S. L. (1990) conducted the study on *"Cash management in Nepalese Public Enterprises*" by using eleven years data from 1977 to 1987. The objectives of this study are as follows:

a. To critically review cash management techniques practiced by Nepalese Public Enterprise
b. To examine the demand for cash in the case of Nepalese Public Enterprise
c. To suggest appropriate cash management policy for the future

Out of different objectives, is to critically review the cash management techniques practiced by Nepalese public enterprises was main objective of the study.

The findings which may be drawn on the basis of the study are as follows:

1. Cash management in the public enterprises of Nepal is primarily based on the traditional practices, lacking in a scientific approach. A more serious aspect of cash management has been the absence of any formalized system of cash planning and cash budgeting in many of the enterprises do have the practice forecasting cash requirements on a formal basis.
2. Modern practices with respect to debt collection, monitoring the payment behaviour of customers and relevant banking arrangements in connection with collection of receivables have been virtually ignored in many enterprises.
3. His survey revealed that majority of the enterprises didn't face any serious liquidity problem. However, this was not because of the effectiveness of cash planning and budgeting. The problem of liquidity actually didn't arise due to the coincidence of delay in receivables collection being matched by delayed payment to creditors.
4. By and large most enterprises had periodic accumulation of surplus cash and corresponding cash shortage from time to time. However, none of the enterprises considered the implications of holding idle cash balance and few took into account the potential benefit of investing surplus in marketable securities. Those which did failed to consider the cost of administering such investments.
5. There have been wide variations overtime in the state of financial health of the enterprises in terms of the composition of current assets and current liabilities as revealed by the relevant financial ratios.
6. Regression analysis revealed that there was little effect of the opportunity cost of holding cash on the cash balances held by the enterprises. Neither interest rate nor

the rate of inflation had any effect on the cash balance. Further there was very little evidence of the effect of economy of scale on cash balance holding in most cases.

Thus, for the public enterprises in Nepal, it is necessary to highlight the importance of developing appropriate strategies for cash management in respect of:

1. Cash planning and cash budgeting on a formal basis so as to project cash surplus or cash deficit for a period not exceeding one year and broken up into shorter intervals.
2. Managing the cash flows so as to accelerate the inflows and as far as possible to decelerate out flows.
3. Optimizing the level of cash balance by matching the cost of holding excess cash and the danger of cash deficiency.
4. Investing idle cash balance taking into account the cost of administering investment in marketable securities.

The review clearly pointed out that cash management is the major problem in Nepalese enterprises. But the success and failure of an enterprise is greatly dependent upon the efficient management of cash.

Baskota, A. (2007), in his study on "*Cash Management of Nepalese Joint Venture Banks in Nepal*" had the following objectives:

a. To critically review cash management techniques practice by Nepalese joint Venture banks.
b. To examine the demand for cash in the case of Nepalese joint venture banks.
c. To present overall cash management picture of selected joint venture banks in Nepal

Karki, S. (2008) conducted a study on '*Cash Management in listed Manufacturing Companies in Nepal*'. He has selected Uni Lever Nepal Ltd., Nepal Lube Oil Ltd., Bottlers Nepal Limited, Nepal Banaspati Ghee Limited and Raghupati Jute Mill as listed manufacturing companies. The study has focused on the liquidity position of the companies, relationship of cash with other influencing variable of cash management and analysis of cash conversion cycle of the companies. Major findings of the study are listed as follows:

1. Listed manufacturing companis do not have any defined policy regarding how much cash balance to hold in each period. Cash and bank balance to held during different periods of study were observed to be highly fluctuated and thus the fact indicates the firm to be lacking definite policy regarding how much of cash balance to hold each period.
2. The concerned companies have failed to maintain adequate proportion of cash on its current assets. The average cash to current ratio has found to be 8.46%. Only United Nepal Lever Ltd. has been able to maintain adequate properties of cash to current assets.
3. The companies have not been precisely meeting their current liabilities payment. The proportion and cash to current liabilities, in overall average is low 12.53%. Cash and bank balance held compared to current liabilities indicates that for some year it was high whereas for some other year was very low.
4. There is significant correlation between cash and quick assets. The overall proportion of cash to quick assets, i.e. 12.12% was very small. Thus the proportion of cash on quick assets is maintained at appropriate level.
5. Listed companies seem not able to maintain the adequate proportion of cash in total assets. The average investment in cash by listed manufacturing companies is just 6.06 percent which is very low.
6. Companies have not been able to trade on liquidity and profitability. Cash reserve and Net Profit Margin are positively correlated.

In conclusion the study summarizes as cash management practices are on the basis of traditional way whereas no any specified plan and policy has been made for efficiency of cash management. The negative profitability evens a small amount of net profit of the companies. Add much, for worsening the financial position. The weak practices of management system has been studies i. e. listed manufacturing companies did not have definite policies regarding how much cash balance should be held for the period. They didn’t forecast the need cash balance taking into consideration of influencing variables.

The study has recommended that financial efficiency is one of the important key elements to achieve the goal of any business enterprises.

So following recommendations are given for better financial performance:

1. Maintaining optimum cash balance every year. Holding of optimum cash as per its sales, profit and other influencing variable are recommended.
2. The companies should improve the cash conversion cycle.
3. The companies must trade off liquidity and profitability in order to increase profit.
4. The organizations should prepare cash budget cash planning and cash budgeting on a formal basis.
5. Surplus cash has to be invested in such a way that in profitable opportunities.

Chataut, B. R. (2008) conducted a study called '*A Study on Cash Management in Nepal Telecom*'. The main objectives of the study are as follows:

1. To observe planning and controlling of cash
2. To identify surplus and cash position, source of financing and sector of investment
3. To study liquidity position

The study has presented following major findings:

1. The actual cash balances were higher than approved budgeted amounts. It shows that there was no effective implication of budgeted amount.
2. The total budgeted sources involved closing cash balance of previous year, external and internal source. Internal source of cash was main portion of the total cash source to meet the budget. The total approved budget cash expenses could be met by total budgeted cash source and there were deficit in every year.
3. The external source of cash was financed in past by World Bank, Danish grant/ loan, N.D.F. loan, Japanese grant, Korean loan and Belgium loan. The amount of loan which was borrowed from external parties was decreasing year by year.
4. Nepal Telecom used its fund in revenue expenditure, capital expenditure, payments to government, payments to employees, payments to inter-administration, payment of loan and interest, financial investment and other liabilities.

5. The company has always drawn ambitious budget. But it was not able to meet its target as desired.
6. There are strict provisions regarding cash handling in the company. The decision making process will be lengthy due to compliance of time consuming rules and procedure as prescribed. The policy study shows that the company is still suffering from centralization problem of management.

The study recommends the following points:

1. Nepal Telecom should prepare realistic budget.
2. Appropriate investment policy for surplus cash must be adopted.
3. The organization has to maintain only required cash balance; not excess cash holding.
4. Nepal Telecom must use internal source in full capacity.

2.8 Research Gaps

All the research studies mentioned above are concerned with the study of cash management. While reviewing the studies on cash management analysis related to a single enterprise, the researcher finds that the evaluation on a single enterprise itself is not properly evaluated and analyzed, what actually the ratios indicate isn't clear; its difficult to find out real solution of problems. Therefore this thesis has tried to analyze comparative ratios in order to make fruitful and objective analysis on cash management of manufacturing companies.

In this research work, a newly published data of FY 2064/65 is used which gives a fresh report to the organization. The study explains to indicate role of cash management for the effective formulation and implementation of financial resources. A study attempts to make study on cash management between public enterprise and private enterprise as both are matter of necessity for developing country Nepal and to analyze financial position of concerned manufacturing concerns. The study attempts to analyze trend equation of different account heads.

CHAPTER-III

RESEARCH METHODOLOGY

Research Methodology is the way to solve systematically about research problems. As the basic objectives of the current practice of research is to highlight and its interpret the current practice of cash management and its effectiveness in the concerned organizations, the research methodology is followed to achieve the basic objective and goals of this research work. Keep in harmony with basic objectives, the description graphical and calculative analysis has been performed.

Following are the major contents of research methodology followed in course of dissertation:

3.1 Research Design

Research design is the plans structure and strategy to obtain answer to research question through investigation and analysis. The research of this study is descriptive as well as analytical. The study is closely related with various accounting statement & reports. The available information from primary and secondary sources are used to examine, explain and evaluate the cash management system of concerned organizations.

3.2 The Population and the Sample

This research work is related with cash management aspects of manufacturing enterprises in Nepal. So, the total present number of manufacturing enterprises in Nepal is through population of the study. Due to various constraints like time resource scarcity, I have randomly selected NEA and DNPL for the purpose of my research work.

3.3 Period Covered

Cash management has two time dimensions: long range and short range. For long range planning, I have analyzed six years trend for short range planning one year date is taken.

3.4 Nature and Sources of Data

Information is the life blood of any research task. To gather the information, data collection is a major task. The study is mainly based on secondary data. Primary data has been used as well. Primary data are collected through interview with officials and a well developed supplementary questionnaire.

Secondary data have been taken from published documents, like publication of Ministry of Finance, National Planning Commission, and Central Bureau of Statistics, Annual reports, booklets, previous dissertations, officials accounting and planning record of NEA and DNPL.

3.5 Tools Used

Crude data are managed and analyzed in proper table and format. Interpretation and explanation are made wherever necessary.

To analyze the collected data, financial and statistical tools have been used as per need.

3.6 Research Variables

The research variable of the study is mainly related with accounting statement of concerned organization, capital expenditure, investing activities, financing activities, profit and loss, Purchase, production, sales, operating activities relating to long term and short term periods of NEA and DNPL.

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The basic objective of this study is to analyze the practice of cash management and its effectiveness in NEA and DNPL. This chapter is devoted to evaluate the performance of concerned enterprises in cash management. For this purpose, the study has covered six years data from fiscal year 2059/60 to 2064/65 *BS*. The related data are especially collected from annual report, magazines, articles, website and information provided by NEA and DNPL. Here we are analyzing the various functional and financial terminologies and their actual accomplishment engaged with cash management. To analyze and clarify, data are shown in tabular, graphical and diagrammatical from as well as different statistical tools have been used. The study is focused on comparing cash management behaviour between NEA and DNPL as representative of public enterprise and private enterprise respectively.

4.2 Level of Cash and Bank Balance in selected enterprises:

4.2.1 Tabular Presentation

Table 4.1

Level of Cash and Bank Balance in Selected Enterprises

(NPR In millions)

Fiscal Years / Enterprises	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	Average
DNPL	5.65	4.23	10.69	7.48	1.91	10.48	6.74
NEA	664.60	1076.15	1036.42	1322.60	1258.60	1447.58	1134.33

Source: Annual Report of Concerned Enterprises

The cash balance of the companies varies widely in all year of study period. The holding of cash position is highest in FY 2061/62 for DNPL i.e. 10.69 million and for NEA is in FY 2064/65 i.e. 1447.58 million. Similarly the lowest cash balance 1.9 million of DNPL is in FY 2063/64 and 664.60 million of NEA in FY 2059/60. The average cash balance of DNPL over the study period is 6.74 million and for NEA, is 1134.33 million.

Above table presents that NEA holds the upper level of cash and bank balance comparing to DNPL; it is because of the widest range of manufacturing and service activities of NEA rather than DNPL.

4.2.2 Analysis of Changes in Cash Balance of Manufacturing Enterprises

Table 4.2

Analysis of Changes in Cash Balance of Manufacturing Enterprises

(NPR In millions)

Fiscal Year / Enterprises	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	5.65	4.23	10.69	7.48	1.91	10.48
% Change	-	-25.13%	152.72%	-30.03%	-74.47%	448.69%
NEA	664.60	1076.15	1036.42	1322.60	1258.60	1447.58
% Change	-	61.92%	-3.69%	27.61%	-4.84%	15.02%

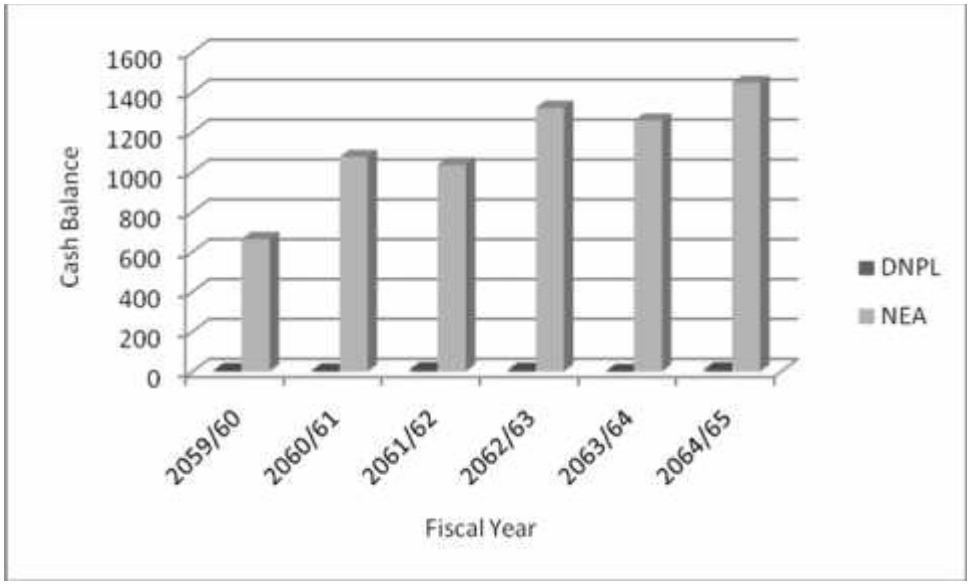
Source: Table 4.1

The table shows increasing and decreasing percentage of cash and bank balance of DNPL and NEA on the basis of previous year during the study period. In FY 2060/61 DNPL has decreased cash balance by 25.13% but NEA has increased cash balance by 61.92%. In FY 2061/62, DNPL has increased cash balance by 152.72% where as NEA has decreased by 3.69% on the basis of FY 2060/61. However, it is inverse case in FY 2062/63 because the percentage of decreased cash balance is 30.03% for DNPL and the percentage of increased cash balance is 27.61% for NEA. In FY 2063/64 and 2064/65 for both enterprises, the trend of changes in cash balance is similar. The percentage of cash balance decreased by 74.47% and 4.84% for DNPL and NEA respectively and in FY 2064/65 the percentage of cash balance increased by 448.69% and 15.02% for DNPL and NEA. The table clearly represents that the changing percentage of cash balance of DNPL is more irregular than that of NEA.

4.2.3 Graphical Presentation of Cash Balance in the Enterprises

Figure 4.1

Multiple bar Diagram for Cash Balance during 6 Years Period



The multiple bar diagram of cash balance in DNPL and NEA is crystal clear figure to compare the balances between two enterprises. NEA has the upper level of cash balance than that of DNPL. The cash balance trend of DNPL is more zigzag than that of NEA.

4.3 Ratio Analysis

Ratio analysis is a yardstick financial tool which is used for the diagnosis of financial health of the company. It is useful for the stakeholder of the company. It represents the actual financial strength and weakness of the company. Management itself can use these parameters, to improve the organization's performance in future. The major types of ratio for the financial analysis are:

i. Liquidity Ratio
ii. Leverage Ratio
iii. Activity Ratio and
iv. Profitability Ratio

Selected ratios are presented here for the study which exhibit cash position of the enterprises.

4.3.1 Liquidity Ratio

4.3.1.1 Current Ratio

The ratio is also called working capital ratio of short term solvency ratio. It is calculated as: $\text{CurrentRatio } X \frac{\text{Current Assets}}{\text{Current Liabilities}}$

The standard ratio is 2:1. If the ratio is higher than 2, it is comfortable to pay current liabilities but it is the indicator of idle funds and if the ratio is less than 2, difficulty may be experienced in the payment of current liabilities and day to day operations of the business may suffer.

Table 4.3

Current Ratio for DNPL and NEA

(NPR In millions)

Enterprises \ Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	C.A	1289.07	1434.17	1460.85	1434.29	1523.39	1539.73
	C.L	954.87	1573.87	1465.46	1558.31	1728.44	1707.69
	C.R	1.35	0.91	1.00	0.92	0.88	0.90
NEA	C.A	7322.00	7690.48	7883.41	8491.60	8995.30	10332.97
	C.L	10096.99	12347.00	14538.09	17466.39	19854.19	22812.13
	C.R	0.73	0.62	0.54	0.49	0.45	0.45

Source: Annual Report of Concerned Enterprises

The above table shows that DNPL has current ratio greater than or equal to 1 for two years but in all the remaining years as well as the whole study period of NEA, have current ratio less than 1. It reveals that DNPL and NEA don't meet the standard ratio in any fiscal year of the study period indicating the cash shortage and critical cash management.

4.3.1.2 Cash to Current Assets Ratio

The current ratio of DNPL and NEA over six years period are not satisfied. It is essential to study cash to current assets ratio for the clarification. Cash is the most liquid current

asset and much more the amount of cash balance, more liquidity in meeting the current obligation.

Table 4.4

Cash to Current Assets Ratio of DNPL and NEA

(NPR In Millions)

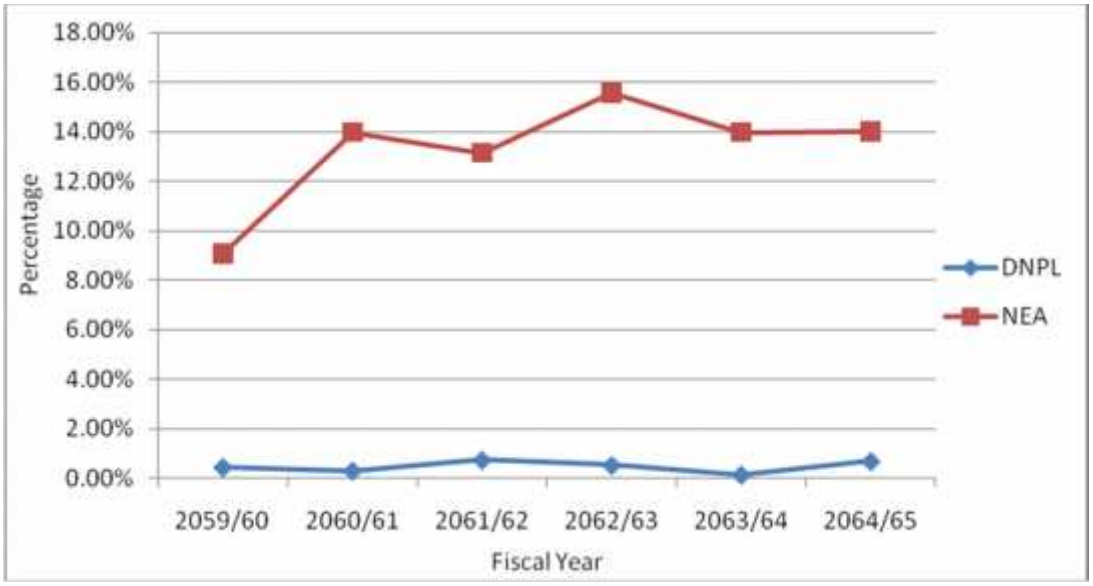
Enterprises \ Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	Cash	5.65	4.23	10.69	7.48	1.91	10.48
	C.A	1289.07	1434.17	1460.85	1434.29	1523.39	1539.73
	Ratio	0.44%	0.29%	0.73%	0.52%	0.13%	0.68%
NEA	Cash	664.60	1076.15	1036.42	1322.60	1258.60	1447.58
	C.A	7322.00	7690.48	7883.41	8491.60	8995.30	1033.97
	Ratio	9.08%	13.99%	13.15%	15.58%	13.99%	14.01%

Source: Annual Report of Concerned Enterprises

In each year, cash to current assts ratio is less than 1% for DNPL where as NEA has almost more than 10% in the study period. It refers that NEA has better liquidity than that of DNPL.

Figure 4.2

Time Series Graph of Cash to Current Assets Ratio of DNPL and NEA



The time series graph of cash to current assets ratio shows high level gap between DNPL and NEA. As in case of current ratio, NEA is in upper level than DNPL in cash to current assets ratio, too.

4.3.2 Activity Ratio

Different types of activity ratios are calculated on the basis of turnover. Higher the turnover ratio indicates the better performance and vice-versa. For the purpose of efficient and prudent performance measurement, selected ratios are presented in this context.

4.3.2.1 Cash Turnover Ratio

Cash turnover ratio explains what extent cash is managed for sales promotion. Higher ratio is the signal of sound relationship between cash and sales.

Table 4.5

Analysis of Cash Turnover Ratio of DNPL and NEA

(NPR In millions)

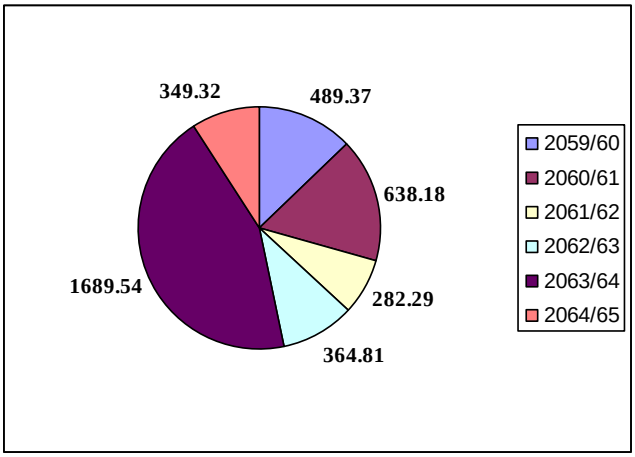
Enterprises \ Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	Sales Income	2764.96	2699.51	3017.70	2728.79	3227.02	3660.84
	Cash	5.65	4.23	10.69	7.48	1.91	10.48
	Ratio	489.37	638.18	282.29	364.81	1689.54	349.32
NEA	Sales Income	9476.20	11012.60	11874.70	12605.20	13331.90	14449.73
	Cash	664.60	1076.15	1036.42	1322.60	1258.60	1447.58
	Ratio	14.26	10.23	11.46	9.53	10.59	9.98

Source: Annual Report of Concerned Enterprises

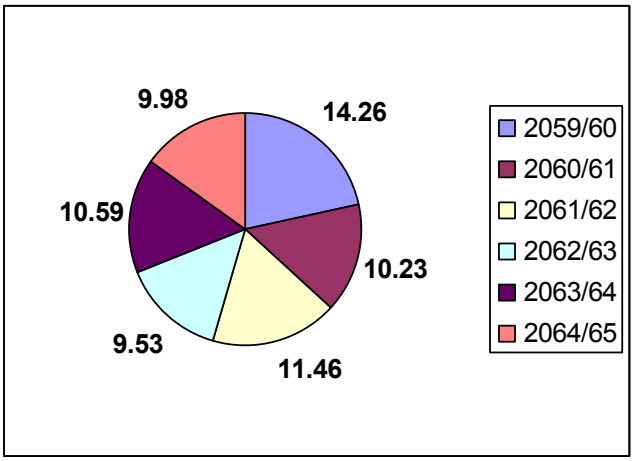
In case of Cash Turnover Ratio, DNPL is better one than NEA. The ratio is more than 300 times in all fiscal years; it is 282.29 times only in F.Y. 2061/62. For NEA, the ratio is in between 9 times to 15 times. In the first year of study period, the ratio is 14.26 times and in all the remaining years, the ratio does not exceed than 12 times.

Figure 4.3

Pie Chart Analysis of Cash Turnover Ratio of DNPL and NEA



DNPL



NEA

In FY 2059/60 cash turnover ratio is 489.37 times of DNPL where as NEA has only 14.26 times. In FY 2063/64 DNPL has ratio of 1689.54 times and NEA has ratio of 10.59 times. Thus, during six years period, DNPL has better ratios than that of NEA.

4.3.2.2 Accounts Receivable Ratio (ARR)

In many companies, the account receivable balance represents a very large amount of capital. Although it is an asset, it is tied up and cannot be spent until it is collected so that it is significant for top management to receive information that measure the effectiveness of its credit and collection performance. The accounts receivable ratio provides the required information about credit sales, debtors and other receivables and average age of receivables.

Table 4.6

Analysis of Accounts Receivable Ratio of DNPL and NEA

(NPR In millions)

Enterprises \ Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	Sales	2764.96	2699.51	3017.70	2728.79	3227.02	3660.84
	Debtors	250.34	247.16	221.75	156.49	230.28	188.34
	Ratio	11.04	10.92	13.61	17.44	14.01	19.44
NEA	Sales	9476.20	11012.60	11874.70	12605.20	13331.90	14449.73
	Debtors	2284.90	3380.20	3735.71	3697.70	4088.00	5151.41
	Ratio	4.15	3.26	3.18	3.41	3.26	2.81

Source: Annual Report of Concerned Enterprises

The accounts receivable ratio of NEA is lower than that of DNPL in each fiscal year during the study period. In FY 2059/60, the ratio is less by 6.89 times (11.04-4.15) of NEA. In FY 2060/61, 2061/62, and 2062/63, the ratio is less than 7.66 times, 10.43 times, and 14.03 times respectively of NEA. In the last two years of study period the difference of accounts receivable ratio of DNPL and NEA are 10.75 and 16.63 times.

The following table of average collection period helps to make the crystal clear about the performance of concerned enterprises in case of accounts receivable.

Table 4.7

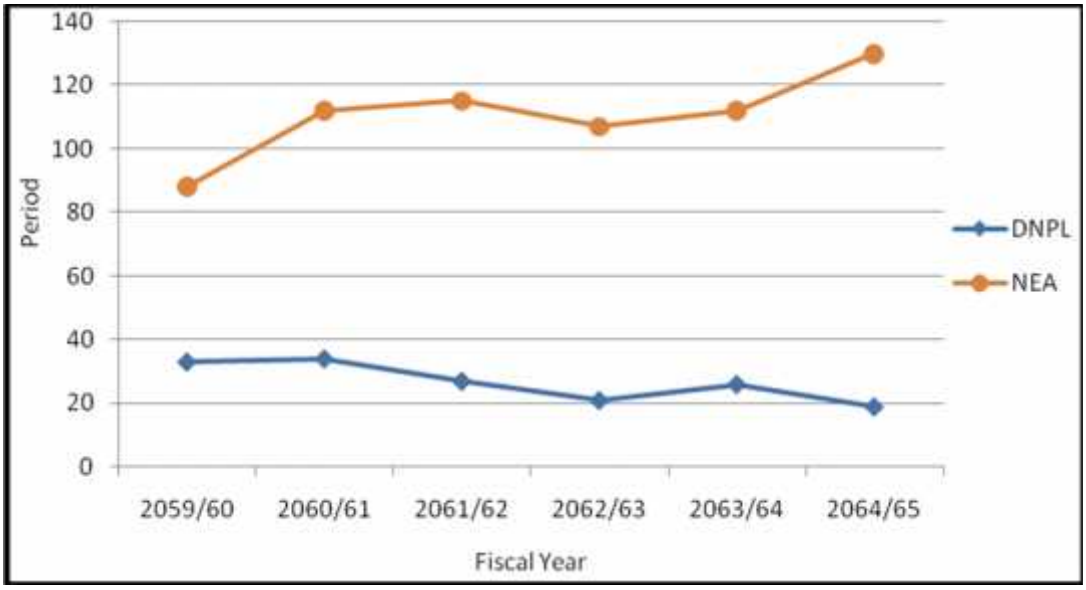
Analysis of Average Collection Period (ACP)

Enterprises \ Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	Days	365	365	365	365	365	365
	ARR	11.04	10.92	13.61	17.44	14.01	19.44
	ACP	33	34	27	21	26	19
NEA	Days	365	365	365	365	365	365
	ARR	4.15	3.26	3.18	3.41	3.26	2.81
	ACP	88	112	115	107	112	130

Source: Annual Report of Concerned Enterprises

Figure 4.4

Analysis of Trend Line of Average Collection Period



The figure shows that trend line to average collection period of NEA is at upper level and DNPL trend line is at lower level. The points of trend line of DNPL don't exceed than 35 days but the points of trend line of NEA exceed than 85 up to 130 days. It proves that higher the accounts receivable ratio is shorter the average collection period. Comparing the DNPL and NEA enterprises, DNPL is efficient than NEA is case of receivable management.

4.3.2.3 Fixed Assets Turnover Ratio

If there is no effective utilization of fixed assets, any organization cannot run properly. Fixed assets turnover ratios analyze the relation between fixed assets and sales.

Table 4.8

Analysis of Fixed Assets Turnover Ratio of DNPL and NEA

(NPR In millions)

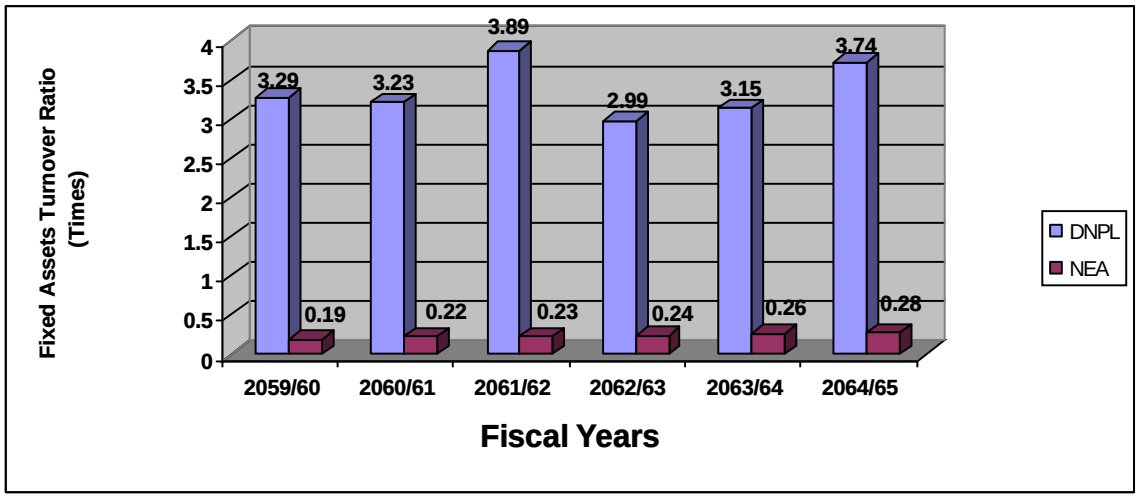
Enterprises / Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	Sales	2764.96	2699.51	3017.70	2728.79	3227.02	3660.84
	Net Fixed Assets	841.49	835.88	775.84	909.97	1025.03	979.95
	Ratio	3.29	3.23	3.89	2.99	3.15	3.74
NEA	Sales	9476.20	11012.60	11874.70	12605.20	13331.90	14449.73
	Net Fixed Assets	51080.91	50094.75	51415.14	52166.56	51743.38	51781.76
	Ratio	0.19	0.22	0.23	0.24	0.26	0.28

Source: Annual Report of Concerned Enterprises

The table analyze that DNPL is better than NEA in fixed assets turnover ratio, too. Fixed assets turnover ratio surrounds at 3 times in all fiscal years where as for NEA, the ratio is less than 0.50 times. DNPL is obviously at optimum level for fixed assets turnover ratio.

Figure 4.5

Multiple bar diagram of Analysis of Fixed Assets Turnover Ratio



Fixed assets turnover ratio of DNPL is in the range of 3 where as the ratio of NEA is in the range of 0.20. This bar diagram clarifies that DNPL is much better condition in utilization of fixed assets with refers to sales.

4.3.2.4 Inventory Turnover Ratio

The ratio establishes the relationship between sales and closing inventory. The ratio is calculated as follows:

Table 4.9

Inventory Turnover Ratio of DNPL and NEA

(NPR In millions)

Enterprises \ Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	Average
DNPL	Sales	2764.96	2699.51	3017.70	2728.79	3227.02	3660.84	
	Closing Inventory	481.99	536.88	640.30	793.99	855.72	882.93	
	Ratio	5.74	5.03	4.71	3.44	3.77	4.15	**4.47**
NEA	Sales	9476.20	11012.60	11874.70	12605.20	13331.90	14449.73	
	Closing Inventory	1050.10	1017.22	1048.01	1372.70	1354.80	1498.45	
	Ratio	8.96	10.83	11.33	9.18	9.84	9.64	**9.96**

Source: Annual Report of Concerned Enterprises

In each year inventory turnover ratio is greater for NEA than for DNPL. DNPL 's highest turnover ratio is 5.74 times in FY 2059/60 and NEA's highest inventory turnover ratio is 11.33 times in FY 2061/62. In the context of inventory turnover ratio, NEA's performance is better than that of DNPL's because average inventory turnover ratio of NEA is greater than DNPL's by 5.49 (9.96-4.47).

4.3.3 Profitability Ratio

Profitability ratio measures the profit position of the enterprise. So, it is almost important for a concern. It indicates the overall efficiency and effectiveness of the enterprise.

4.3.3.1 Net Profit Margin

A more specific measure of sales profitability is net profit margin. Net profit margin is calculated as:

$$\text{Net Profit Margin } X \frac{\text{Net Profit After Tax}}{\text{Sales}} \mid 100$$

The margin of DNPL and NEA of 6 years are shown below in table:

Table 4.10

Net Profit Margin of DNPL and NEA for Six Years

(NPR In millions)

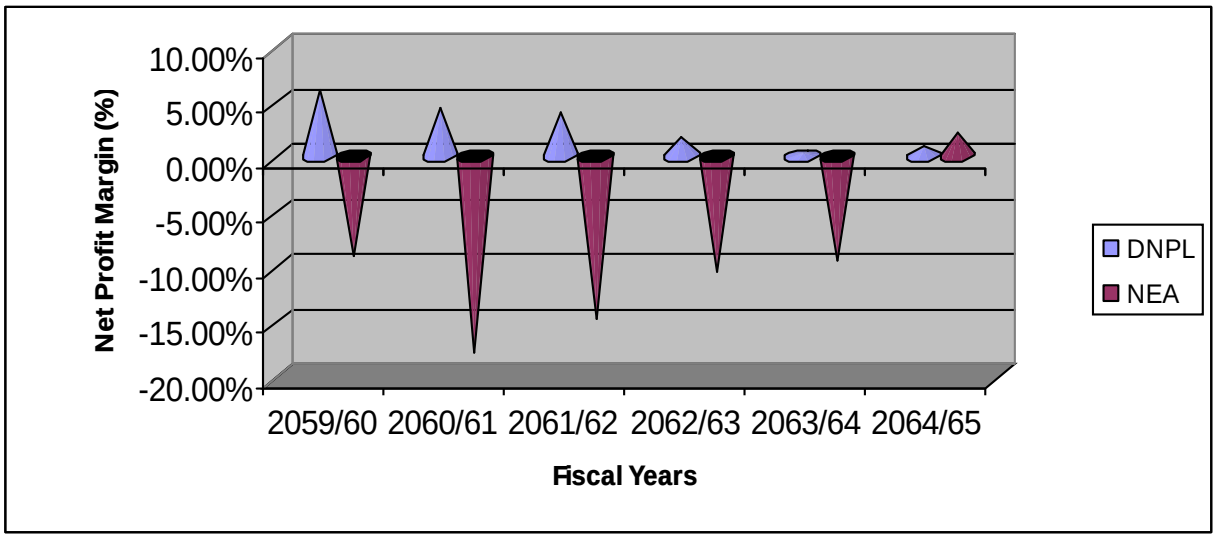
Enterprises \ Fiscal Year		2059/60	2060/61	2061/62	2062/63	2063/64	2064/65
DNPL	Profit	164.29	115.08	121.27	45.34	12.13	30.38
	Sales	2764.96	2699.51	3017.70	2728.79	3227.02	3660.84
	Ratio	5.94%	4.26%	4.02%	1.66%	0.38%	0.83%
NEA	Profit	(860.70)	(1953.70)	(1760.30)	(1312.80)	(1267.80)	314.19
	Sales	9476.20	11012.60	11874.70	12605.20	13331.90	14449.73
	Ratio	(9.08)%	(17.74)%	(14.82)%	(10.41)%	(9.51)%	2.17%

Source: Annual Report of Concerned Enterprises

During the study period, net profit margin of DNPL is greater than NEA's margin. However the margin is in declining trend of DNPL from fiscal Year 2059/60 to 2064/65. The highest margin is 5.94% in FY 2059/60 and lowest margin is 0.38% in FY 2063/64. The margin of NEA is in negative from up to FY 2063/64 because NEA has suffered from net loss. In the last year of study period, the margin is 2.17% , i.e. is the highest margin of NEA of all 6 Years period.

Figure 4.6

The Margin of DNPL and NEA of 6 years are shown below in figure



According to the cone diagram, the pointed part of cone of DNPL are up warded from 0% and the pointed part of cone of NEA are down warded to negative field except in FY 2064/65. Thus it is sentenced that DNPL has better net profit margin ratio than that of NEA.

4.4. Relationship between Cash and Other Variables

4.4.1 Analysis of Relation between Cash (y) and Sales (x)

To analyze the relationship between cash(y) and sales (x), Karl Pearson's correlation coefficient has been determined. The calculated correlation between x and y has been observed to be 0.34 for DNPL and 0.95 for NEA. Generally, it is predicted that the cash balance and sales have positive relationship. To make confirmation, whether it is fact or not, correlation coefficient (r) is compared with probable error (PE). In case of DNPL, r = 0.34 > P.E = 0.24 but, r = 0.34 < 6PE = 1.44; i.e, the value of r is not significant. Perhaps there in no evidence of correlation (Appendix- 2). In case of NEA, r = 0.95 > P.E.= 0.03 and r = 0.95 > 6PE = 0.18, i.e. r is significant. There is reliability of the calculated value 'r' for NEA (Appendix- 3).

4.4.2 Relationship between Cash and Current Assets

To analyze the relationship between cash (x) and current assets (y), Regression Analysis has been determined. In case of DNPL, the regression equation of cash (x) on current assets (y) has been obtained to be x = -1.5075 to 0.00574. The regression coefficient of cash on current assets, 0.0057 explains that 1 million change in current assets makes 0.0057 million change in cash in same direction.

Similarly the regression equation of CA (y) on cash (x) is y = 1421.78 + 3.73 x. The regression coefficient explains that 1 million changes in cash may occur 3.73 million changes in current assets in same direction (Appendix – 4 & 5).

4.4.3 Relationship between Cash and Account Receivable

In general, there is opposite relationship between cash and account receivable. The amount of cash balance will increase if account receivable decreases and vie-versa.
The correlation coefficient ® between cash and A/R is calculated -0.48 in case of DNPL. A/R is negative; it proves that there is negative correlation between cash and A/R. However r < PE; i.e. -0.48 < 0.21, the value of r is not significant (Appendix- 6). In case of NEA, the value of r is 0.92 and r > 6PE; i.e., 0.92 > 0.24, so the value or r is significant. There is close relationship between cash and A/R (Appendix - 7).

4.4.4 Relationship between Cash and Net Profit

In a firm, liquidity and profitability contradicts, and as such the firm should seek for trade off between the two variables. If the firm holds large current assets so as to become more liquid, the consequence is that the profitability is adversely affected. Since the firm could have invested a large portion of such current assets to earn profit.

In case of DNPL, the correlation coefficient (r) between cash and net profit is found to be 0.09. Since r = 0.09 < 6PE. = 1.62, r is not significant (Appendix- 8). In case of NEA, the value of r is 0.34 and r < 6PE; i.e. 0.34 < 1.44 so the value of r is insignificant. Thus in both concerned enterprises, the correlation coefficient between cash and net profit is found insignificant (Appendix - 9).

4.5 Analysis of Cash Flow Statement of DNPL

Cash flow statement of the corporation signifies the movements of cash in hand and out of enterprises. Inflow of cash is known as source of cash and outflow is called use of cash. It virtually takes the nature and character of cash receipt and payment though the basic information used in the preparation of the is statement differs form that which is used in recording cash receipt and payment Cash flow statement covers vast scope rather than cash receipt and payment account. The statement is one of the essential reports to draw financial position of the enterprise.

Table 4.11

Cash Flow Statement of DNPL

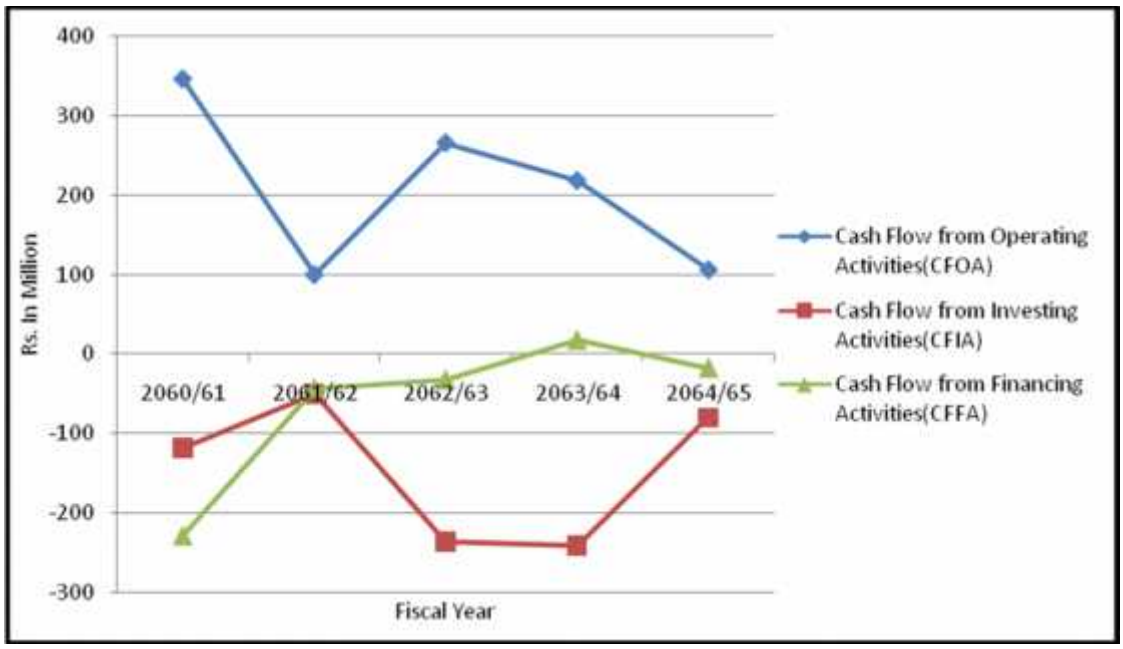
(NPR In millions)

Fiscal Year	2060/61	2061/62	2062/63	2063/64	2064/65
Cash Flow from Operating Activities(CFOA)	346.17	100.33	265.96	218.53	106.57
Cash Flow from Investing Activities(CFIA)	(119.04)	(50.67)	(236.52)	(241.72)	(80.56)
Cash Flow from Financing Activities(CFFA)	(228.54)	(43.19)	(32.64)	17.61	(17.43)
Net Changes	(1.41)	6.45	(3.20)	(5.58)	8.57

Source: Annual Report of Concerned Enterprises

Figure 4.7

Cash Flow of DNPL



The table and figure shows cash flow activities of DNPL during study period. CFOA is NPR 346.17 million in FY 2060/61. It is decreased to 100.33 million in FY 2061/62. In FY 2062/63 and 2063/64, CFOA is 265.96and 218.53 million respectively. Again CFOA is reduced to 106.57 million in FY 2064/65. In this way CFOA is higher in FY 2060/61

and lower in FY 2061/62. The average CFOA is Rs 207.42 million. During the study period, CFOA is in decreasing trend.

CFIA is in negative form in all the fiscal years. Cash out flow in investment activities is highest in FY 2063/64 and lowest in FY 2061/62; i.e, 241.72 and 50.67 million respectively. The main factor of cash outflow in investment activities is purchases of fixed assets. It indicates that DNPL is extending production capacity and overall activities area.

CFFA is in positive form only in FY 2063/64 i.e., 17.61 million. In other years it is in negative form. It is due to the repayment of long term loan and dividend paid to shareholders. Cash flow form operating activates is ploughed for the investment and loan payment. It shows strong financial position of company.

4.6 Cash Flow Budget of NEA

Cash flow budget is the plan of cash inflow and cash outflow in an effective way to control cash assets, need of cash and proper use of excess cash. The cash flow budget shows the opening cash balance, sources of income, payment heads, cash and bank balance, surplus or deficit. It helps to determine the future borrowing and investment of cash.

Table 4.12

Cash Flow Budget of NEA for the FY 2064/65

Particulars	Amount (NPR in Million)
Receipts:	
Opening balance	874.84
Electricity sales: Internal	13488.00
India	-
Income from other services	718.00
Dividend	126.00
Others: Short term loan	-
Amount received from Nepal Government:	
a) Electricity charge (Street light)	250.00
b) Development Budget:	
i) Source from Nepal Government	746.70
ii) Foreign source	6008.00
Total:	**22211.54**
Payments:	
Operation overhead release	3631.49
Interest expenses of Long term loan	1200.00
Purchase of electricity	5822.00
Royalty payment	600.00
Income tax payment	-
Capital expenditure release	1080.53
Investment in Nepal Govt. approved project:	
a) Source of Nepal Electricity Authority	3000.00
b) Nepal Govt. Source	746.70
c) Foreign Source	6008.00
Principle installment payment of Long term loan	500.00
Principle installment payment of Short term loan	700.00
Borrowing fund release	30.00
Purchase Budget (Net) release	150.00
Contingency fund	150.00
Assets insurance fund investment	-
Pension investment	50.00
Total:	**23668.72**
Surplus/ (Deficit)	**(1457.18)**
Minimum Bank Balance	**(600.00)**
Net Surplus/ (Deficit)	**(2057.18)**

From above statement, it is apparent that the major sources of cash of NEA are sales of electricity, income from service, dividend and development budget from Nepal Government. The major expenditure headings are operation overhead release, interest on long term loan, purchase of electricity, capital expenditure release, investment in government approved projects etc. In FY 2064/65, the cash inflow is estimated to be NPR 22211.54 million and the expenditure NPR 23668.72 million. Thus, this deficit cash budget by NPR 1457.18 million including minimum bank balance of NPR 600 Million.

4.7 Major Findings

The study concludes the following points after detail analysis of the current practices of cash management in NEA and DNPL.

1. NEA is a public utility enterprise and has large amount of cash transaction comparing to private enterprise, presenting DNPL. The average cash and bank level of NEA is 168.30 times greater than that of DNPL. Cash management determines the size of cash holding and amount of investment, the factors that affect cash flow and imbalance the cash inflow and outflow to achieve the mission of the enterprises.

2. The functions related with cash activities of NEA are:
   - To raise loan from foreign government, institution, national institutions, banks and government.
   - To fix electricity and service charge for the customer and collect them.
   - To sell and buy electricity to and from other countries, private projects.
   - To invest the amount lying in the fund of authority.

3. The functions of DNPL concerned with cash flows are:
   - To purchase, take on lease or possessory mortgage, or otherwise acquire or decide to construct building, offices, showrooms office-building and other necessary moveable and immovable assets and property.

- To purchase debentures, loan bonds and securities including ordinary and preference shares as well as to sell the shares of companies purchased by it.
- To pay or bear all expenses, fees, charges and other contingency expenses to be incurred or paid in the course of performing functions.
- To produce family production and health care products, make arrangements in a planned manner for their sale and distribution, and also export them to foreign countries.

4. Cash inflow, outflow and balance is affected by different factors of the enterprise such as fixed assets, investment, current assets, prepaid expenses and advances, capital formation, reserve and surplus, long term and short term debt, current liabilities and provisions.

5. The term cash is the most liquid assets of the enterprises.

6. NEA has adopted policy to maintain 13.3% cash and bank balance of current assets in average where as DNPL is following 0.47% cash balance of current assets in average during study period.

7. In case of NEA; the average current liabilities is 16185.80 million and DNPL's is average current liabilities is 1498.11 million. So average cash to current liabilities ratio is found to be 7.01% for NEA and 0.45% for DNPL. It indicates NEA has better capacity to meet working capital requirements rather than DNPL.

8. During the study period the maximum sales income of NEA is 14449.73 million and DNPL has 3660.84 million. NEA has increasing trend to sales income but DNPL trend is up and down. Comparing the maximum sales income, NEA has 3.94 times greater income than that of DNPL. NEA sales electricity by generating, transmitting and distributing and collects electricity and service charge. DNPL sales more than thirty major products related with toothpaste, oil, shampoo, fruit juice,

honey, wax sheet etc. Both the enterprises made export sales only to India (neighboring country).

9. Sale is one of the important factors of cash management. However, DNPL is ignoring the correlation of sales and cash. In FY 2061/62 sales is 3017.70 million and net cash changes is 6.45 million where as in FY 2063/64 sales is 3227.02 million and net cash changes is (5.58) million. In case of NEA, correlation between cash and sales is relevant. Sales income and cash balance both are in increasing trend.

10. The standard principle of cash management is to collect account receivable as soon as possible without annoying and loosing potential customer. Between NEA and DNPL, DNPL is efficient in case of receivable management. The average collection period of DNPL is 27 days where as NEA's is 110 days.

11. Most of the companies keep certain percentage of cash on the basis of total assets. The study conducts that NEA keep 7.28% cash on total assets and DNPL keeps 0.29% cash on total assets in average. NEA has optimum cost holding company to DNPL in the ratio to total assets. NEA has 54.96% of fixed assets proportion to total assets and DNPL has 38.21% of fixed assets proportion to total assets. It indicates that the cash holding percentage of DNPL is not lower due to investment of fixed assets.

12. The profitability condition of NEA is not in better condition. For the first five years of study period, NEA has suffered from net loss surrounding 860.70 million to 1953.70 million. Only in FY 2064/65, NEA has gain 314.19 million net profit. In case of DNPL, the net profit is in decreasing trend. The highest net profit is NPR 164.29 million in FY 2059/60 and lowest net profit is 12.13 million in FY 2063/64. The correlation between cash and net profit shows the insignificancy for both enterprises.

13. In case of DNPL, net changes in cash flow is negative for three years. Only in FY 2061/62 and 2064/65, DNPL has positive net changes in cash flow i.e., 6.45 million and 8.57 million respectively. It predicts that DNPL is focused to purchase fixed assets, repayment of long term loan and dividend paid to stockholders.

14. The cash flow budget of NEA shows opening cash balance, sources of cash inflows, expenditure heads and surplus or deficit of the enterprise. Generally the cash budget is of deficit. The main sources of cash inflow are sale of electricity, other service and sources, dividend, interest received, issue of debenture, short term loan, electricity charges on government offices, at street lights, cash from Nepal government and foreign source. The expenditure heads are operating expenses, interest of long term loan, purchase of electricity, payment of royalty, capital expenditure, investment in government approved projects, payment of long term loan installment, staff loan fund, contingencies fund, life insurance payment of staff etc. the minimum bank balance of NEA is considered as 600 million.

15. Correlation of cash to other variables is found insignificant in most conditions. It predicts that NEA and DNPL are not efficient in cash management regarding the factors that effect cash level directly or indirectly.

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study of cash management occupies an important space in Nepalese enterprises. It has received a lot of attention in the recent years mainly because of the growth in the size of enterprises and because of the increases in the number of business failures. Cash and cash equivalents are considered some of the most important components of current assets and are believed to be the helping hands of corporate financial management. Every business needs to maintain cash for the operations of its business but the requirement of cash is likely to be different according to the nature and size of transactions. Maintaining appropriate level of cash within the organization is fundamental towards the smooth running of enterprises. Firms have a tendency of holding large proportion of firm assets in the form of cash and cash equivalent in order to reinvest in other physical assets and to pay to stockholders. The level of cash a firm maintains is characterized by its policies regarding capital structure, working capital requirements, cash flow management, dividend payments, investment and asset management.

Public enterprises play vital role in fundamental and industrial sector in developing countries like Nepal, However, the necessity and contribution of private enterprises for the enrollment of industrial sector can't be ignored in the 21st centaury. In fact, the operation of public and private enrollment must be balanced for the optimum output in industrial sector.

In this regard, NEA, a public utility enterprise and DNPL, a private manufacturing enterprise are selected for the study. NEA is an institution engaged for the development of power sector. It is concerned with generating and supply of electricity. This is the fundamental sector for the country and people. DNPL, joint venture with Dabur India Ltd, is related with the production of family product division and health care division. The present study has mainly focused on cash management of the concerned enterprises.

The study has covered six years data (from FY 2059/60 to 2064/65) to examine the cash holding position and comparative study between the enterprises. This study is a descriptive, correlation and casual comparative study mainly based on secondary data. This is the 5th chapter of the study; Summary, Conclusion & Recommendation.

5.2 Conclusion

For the development of country, manufacturing concerns play efficient role. The fundamental nature manufacturing e.g. bases on electricity, food, infrastructure is operated by government and this is necessity in developing countries like Nepal. In this context NEA is one of the essential manufacturing enterprises in Nepal.

Nepal is following liberal policy and applying as per change in global economy and necessity. Multinational companies are being established in different sectors. Among them DNPL is health care and family products manufacture based multinational enterprise.

The study is based on comparative explanation of cash management in both enterprises.

1. Cash inflow, outflow and balance is affected by different factors of the enterprise such as fixed assets, investment, current assets, prepaid expenses and advances, capital formation, reserve and surplus, long term and short term debt, current liabilities and provisions.
2. Both the enterprises made export sales only to India (neighboring country).
3. The average collection period of DNPL is 27 days where as NEA's is 110 days.
4. The correlation between cash and net profit shows the insignificancy for both enterprises.
5. The cash flow budget of NEA shows opening cash balance, sources of cash inflows, expenditure heads and surplus or deficit of the enterprise. Generally the cash budget is of deficit.
6. Correlation of cash to other variables is found insignificant in most conditions. It predicts that NEA and DNPL are not efficient in cash management regarding the factors that effect cash level directly or indirectly.

5.3 Recommendations

Based on the study, the following suggestions are recommended to improve the formulation and implementation of cash management system of NEA and DNPL.

1. There should be proper communication and coordination among all levels of management for both the tactical and strategic plans.
2. A systematic and scientific approach should be made on implementation of cash management.
3. The enterprise should develop the periodic performance reports, detailed by assigned responsibilities to accomplish the planning objectives.
4. Variance analysis must be effectively done.
5. Planning experts should be developed.
6. The enterprise should try to minimize the loss and maximize the profit.
7. The relation among cash and other variables concerned with cash management must be properly recognized, studied and compared to know the real financial position of enterprises.
8. The enterprises have to stress on efficient utilization of available of fixed assets. Some percentage of fixed assets is not in use and the enterprises are planning only to extend the fixed assets. It is not proper use of cash balance.
9. The authority must be familiar about the strengths and weakness of the organization to grab opportunities.
10. The enterprises should focus on optimum stock of inventories that may be of raw material, Work-in-progress or finished goods.
11. Foreign currency transactions should be accounted at exchange rates prevailing on the date of the transactions.
12. The enterprises have to control the unnecessary administrative expenses and leakages.
13. The enterprises can reduce the cost of (borrowing) debt and loan, increasing internal leverage, short term financial and reducing external long term loan.

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Supplementary Questionnaire

Name:

Post:

Department:

1. Is cash management an important part of overall management in the organization?
   a) Most important b) Less important c) No important

2. What are the factors related with cash management?
   a) b) c)

3. What is the relationship among influencing variables of cash management?
   a) b) c)

4. Whether the company is able to maintain appropriate level of liquidity position or not?
   a) Yes b) No

5. What are the procedures of cash collection from customers?
   _____

_____

6. What is the policy to maintain working capital?
   _____
   _____

7. What proportion of cash balance is invested for fixed assets and other investments?
   _____

8. What is the condition of net profit/ loss in last six years?

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9. What is the proportion of equity and debt?
   a) b) c)

10. Is there positive or negative relation between cash holding and profit realized?
    a) Positive b) Negative

Date: Signature:

Appendix- 1

Brief Overview of NEA

There are many PEs in various sectors such as industrial sector, financial sector and public utility sector. NEA is one of them which was established on 1st Bhadra 2042*BS* (17th August 1985*AD*) under the NEA Act 2041 as the largest government corporation of Nepal (NEA yearly review 2057, page3). It is concerned with generation and supply of electricity without doubt, efficiently, economically and orderly manner of reasonable prices for the overall development of country. It is the firm as an artificial person so it can obtain and sell fixed, non-fixed assets, face with cases etc. as a natural person. It has its own name and separate stamp. Different government, non–government donations and fees collected from the customers are main sources of income.

According to the suggestion of World Bank and Asian Development Bank several similar enterprises have amalgamated. In this process, NEA formed merging Nepal Electricity Corporation (NEC Act 2019), Electricity Department (1968), Eastern Electricity Corporation and several other power development boards. Initially NEA had an authorized capital of NPR one billion. But recently the authorized, issued and paid up capital of NEA is NPR 1,273.1 million. Par value and paid up value is Rs.100 per share. The control office is situated at Kathmandu having commercial and service principle. NEA has regional office in every development regions. There are 9 directorates and their branches nave spread all over the country for the proper operation. The vital principal objectives of NEA are as follows:

- To plan, construct , operate and maintain the electric power sub sector
- As per the economical situation of industrial and non-industrial consumer sector, utilize the different plan for production, transmission and distribution of electricity
- To use the available resources necessary for the development of electricity supply with most efficient and effective manner

According to Nepal Electricity Authority Act, the function and duties of NEA are as follows:

- To supply electricity by generating, transmitting and distributing electricity pursuant to the prevailing law
- To recommend Government to determine the long term and short term policy relating to the supply of electricity
- To fix electricity fee and other service charges relating to the electricity
- To investigate and research task for the production, transmission and distribution of electricity
- To manage the production, transmission and distribution of electricity of adequate standard in the regions which are economically appropriate for the industrial agricultural development and facility of the people
- To make and cause to make arrangement for higher training and study with a view to prepare expert manpower relating to production, transmission and distribution of electricity
- To provide technical advice and consultancy relation to production, transmission and distribution of electricity

Rights of NEA

The rights of authority as per NEA Act are as follows:

- To raise loan from foreign government or foreign institution and international institution
- To raise loan from national institutional banks
- To collect fees of electricity and service charges from the customers
- To sell and purchase electricity to and from foreign countries
- To invest the amount lying in the fund of the authority
- To check the authoritative consumption of the electricity applied by the authority
- To buy electricity provided from private sector
- To do all work which seems to inevitable and necessary for the fulfillment of duties

Organizational Structure

The cash management system mostly depends upon the sound organizational structure of the enterprise and clear cut lines of the authority and responsibility. The purpose of organizational structure and assignment of authority is to establish of framework within which enterprise may attain the objectives in a co–ordinated and effective way of continuing basis.

NEA is managed by managing director under the supervision and control of board of directors. Government appoints the managing director. Mr. Arjun Kumar Karki had been appointed as managing director since 1st Shrawan 2063. The body of eight members altogether constitutes the board of directors of NEA. They are as follows according to NEA Act 2041;

The minister / state minister of water resources -	Chairman
Secretary, ministry of water resources -	Member
Secretary, ministry of finance -	Member
Two prominent persons from the commerce and industry sector -	Member
Managing director of NEA -	Member Secretary

Brief Overview of Dabur Nepal Private Limited

Amid waves of changes brought about by the ;iberalization of investment policy of Nepal in the early 90's, Dabur Nepal Private Limited (DNPL), the joint venture with Dabur India Ltd; a company with 100 years of expertise in Ayurvedic based personal care, health care and food products has been a catalyst for the country's infrastructural growth, economic independency and global recognition. Dabur Nepal was established in 1992 with an initial investment of Rs. 80 million. The JVC agreement was done in 1989. The company is an 80% subsidiary of Dabur India Pvt. Ltd. The factory was situated at Parwanipur, Birjung. Over the last 16 years Dabur Nepal has succeeded in fulfilling the needs in health care, personal care and food products. The company is the first of its kind in the country to attach ecological resources and manufacture commercially viable and

value-added top of the line products locally to be sale at prevalent rates for domestic use and export to India, Bangladesh and other neighbouring countries.

Dabur has been combining modern technology with the wisdom of ancient texts to develop innovative products. Dabur manufactures verities of products. It is into the business of manufacturing and selling of Ayurvedic medicine, Ayurdervic natural and herbal personal and health products and processed food either directly or indirectly through the subsidiaries.

Based on the products manufactured by the company, entire business can be divided into two divisions, namely family product division and health care division.

Family Product Division

The division is into business of manufacturing and selling hair care products, oral care products, skin care products and honey. Hair care products portfolio includes Dabur Amala hair oil, improved Dabur Special hair oil, Vatika hair oil and Vatika Shampoo. Oral care products portfolio includes Dabur Lal Danta Manjan, Dabur Lal toothpaste besides that the company has also Bianca range of toothpaste and toothbrushes.

Health Care Division

The division is into business of Ayurvedic based health tonic, health tablets and health oil. The division's products portfolio consists of health tonic products consisting of Chawanprash, digestive products consisting of Pudin Hara, Hajmola tablets and Tringoli, child care products consists of Dabur Lal oil.

The Dabur Nepal Pvt. Ltd, started manufacturing of Dabur Products in Nepal in 1992. The company is increasing and modernizing the products line. The company has also set up herbal nursery project "Plant for life"- 90 million green house project at Banepa in 1996 with a vision to revitalize the fast receding herbal flora of Nepal. Spread over five acres of land, the lush green environment comprising several green houses, Dabur Nepal has been able to produce the needed herbal ingredient for its product and has helped to

generate employment in the locality. The aim of starting the nursery project has developed a sustainable source of medicinal herbs and protected the ecological balance of the Himalayas. The application of this project has stimulated a steady supply of rare, endangered medicinal herb samplings in a state of the art green house equipped with modern climatic controls. The samplings are also sold at cost to farmers in remote areas to grow and harvest with "buy back guarantee". Steps have been taken to subsidize the cost of samplings in order to enable broader participation of the local people.

The company's various community initiatives, generation of employment and additional income for the local people has resulted in improved socio-economic condition. Since its inception in 1992, Dabur Nepal has been an active member of the socio-economic development of Nepal. The products are made entirely from natural ingredients and have maintained international quality standards through every stage of production. The company has not only established some benchmark facilities in production and scientific research, but also set in place social programmes that help local communities.

- Set up social welfare schemes to develop infrastructural facilities in health and education sector.
- Promote cultural events to give a boost to Nepalese art.
- Sponsor and support sporting events to help build up Nepal's presence in the world of sports.

Besides it has earned several honours including the Higher Exporter Award from the Ministry of Commerce, NICCI Award for the excellence and CIP Award for outstanding contribution to the country. In the year 2002 DNPL got certificate of Hazard Analysis & Critical Control Point (HACCP) plan verification for manufacturing of fruit juice and tomato puree. DNPL conducted a novel marketing campaign in June 2004, at least in the context of Nepali market. The company redesigns, extends and launches the product according to the necessity and consumer demand. The company's endeavour has shown some remarkable results in just over a decade.

- Dabur established as a strong nationwide brand, selling in over 20,000 retail outlets throughout Nepal.

- Dynamic brand and Corporate image building exercises through sponsorship of major national sports and cultural events.
- Capital assets jumped 10.5 times in 10 years.
- Net profit crossed Rs. 50 crore.

In fact the fundamental objectives of DNPL according to memorandum of association of DNPL are as follows:

- To establish a modern factory, process and blend local and imported herbs and thus produce different verities according to license issued by the Department of industry, make arrangements in a planned manner for their sale and distribution and also export them to foreign countries
- The company also aims at processing and blending in a scientific and high standard manner different verities of herbs
- To produce Toxin Resin by collecting and processing Taxus Baccotta leaves and to sell in domestic as well as international market
- To produce all types of fresh fruit juice and to sale in domestic as well as international market
- To carry on the business of development of Nurseries, Afforestation, Herbi culture and use for captive consumption

According to memorandum of association of DNPL, the functions to be performed to realize the objectives of the company are listed as below:

- To purchase, take on lease or processory mortgage, or otherwise acquire or decide to construct building, offices, show–rooms office building and other necessary movable and immovable assets and property
- To purchase debentures, loan–bonds and securities, including ordinary and preference shares, issued according to law
- To procure goods and materials needed for the construction and improvement of the factory
- To use various trade names, trade marks and brands names in order to promote the sale of the products, advertise the products of the company

- To establish laboratories to conduct research with the objectives of improving the production process and the quality of products

DNPL is managed by managing director under the supervision and control of board of directors. Mr. Rukma Shumsher Rana is conducting as managing director since DNPL's establishment. There are altogether eight members in BOD as follows:

Mr. Pradeep Burman – Chairman
Mr. Rukma Shumsher Rana - Managing Director
Mr. A.C. Burman – Director
Mr. Amit Burman – Director
Mr. P.D. Narang - Director
Mr. Charanjit Mohan - Director
Mr. Iswon Rana - Director
Mr. T.K. Gupta - Director

Appendix-2

Relation between Cash (Y) and Sales (X) of DNPL

FY	Sales (X)	Cash (Y)	x = X- $\bar{X}$	$x^2 = (x - \bar{x})^2$	y = Y- $\bar{Y}$	$y^2 = (y - \bar{y})^2$	xy = (x-$\bar{x}$)(y − $\bar{y}$)
2059/60	2764.96	5.65	-251.51	63257.28	-1.09	1.19	274.15
2060/61	2699.51	4.23	-316.96	100463.64	-2.51	6.30	795.57
2061/62	3017.70	10.69	1.23	1.51	3.95	15.60	4.86
2062/63	2728.79	7.48	-287.68	82759.78	0.74	0.55	-212.88
2063/64	3227.02	1.91	210.55	44331.30	-4.38	23.33	-1016.96
2064/65	3660.84	10.48	644.37	415212.70	3.74	13.99	2409.94
	∑X= 18098.82	**∑Y= 40.44**	**∑X= 0**	**$\sum X^2$= 706026.21**	**∑Y= 0**	**$\sum Y^2$= 60.96**	**∑XY=2254.68**

Here, Sales is assumed X.

Cash is assumed Y.

(i) Calculation of mean for sales ($\bar{X}$) = $\frac{\sum X}{n} = \frac{18098.82}{6} = 3016.47$

Calculation of mean for cash ($\bar{Y}$) = $\frac{\sum Y}{n} = \frac{40.44}{6} = 6.74$

(ii) Calculation of Karl Pearson's Correlation Coefficient

$$(r_{xy}) = \frac{xy}{\sqrt{x^2}\sqrt{y^2}}$$

$$= \frac{2254.68}{\sqrt{706026.21}\sqrt{60.96}}$$

$$= \frac{2254.68}{840.25 \times 7.81}$$

$$= \frac{2254.68}{6562.35} = 0.34$$

(iii)Calculation of Probable Error

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

$$= 0.6745 \times \frac{1-(0.34)^2}{\sqrt{6}}$$

$$= 0.6745 \times \frac{1-0.1136}{2.4495} = 0.6745 \times \frac{0.8844}{2.4495} = \frac{0.5965}{2.4495} = 0.24$$

Appendix -3

Relation between Cash (Y) and Sales (X) of NEA

FY	Sales (X)	Cash (Y)	x = X-$\bar{X}$	$x^2 = (x-\bar{x})^2$	y = Y-$\bar{Y}$	$y^2 = (y-\bar{y})^2$	xy = (x-$\bar{x}$)(y − $\bar{y}$)
2059/60	9476.20	664.60	-2648.85	7016406.32	-469.73	220646.27	1244244.31
2060/61	11012.60	1076.15	-1112.45	1237545.00	-58.18	3384.91	64722.34
2061/62	11874.70	1036.42	-250.35	62675.12	-97.91	9586.37	24511.77
2062/63	12605.20	1322.60	480.15	230544.02	188.27	35445.59	90397.84
2063/64	13331.90	1258.60	1206.85	1456486.92	124.27	15443.03	149975.25
2064/65	14449.73	1447.58	2324.65	5403997.62	313.25	98125.56	728196.62
	∑X= 72750.33	**∑Y= 6805.95**	**∑X= 0**	**$\sum X^2$= 15407655**	**∑Y= 0**	**$\sum Y^2$= 382631.73**	**∑XY= 2302048.12**

Here, Sales is assumed X.

Cash is assumed Y.

(i) Calculation of mean for sales ($\bar{X}$) = $\frac{\sum X}{n} = \frac{72750.33}{6} = 12125.05$

Calculation of mean for cash ($\bar{Y}$) = $\frac{\sum Y}{n} = \frac{6805.95}{6} = 1134.33$

(ii) Calculation of Karl Pearson's Correlation Coefficient

$$(r_{xy}) = \frac{xy}{\sqrt{x^2}\sqrt{y^2}}$$

$$= \frac{2302048.12}{\sqrt{15407655}\sqrt{6382631.73}} = \frac{2302048.12}{3925.26 \times 618.57} = \frac{2302048.12}{2428048.08} = 0.95$$

(iii)Calculation of Probable Error

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

$$= 0.6745 \times \frac{1-(0.98)^2}{\sqrt{6}}$$

$$= 0.6745 \times \frac{1-0.9025}{2.4495} = 0.6745 \times \frac{0.0975}{2.4495} = \frac{0.0658}{2.4495} = 0.03$$

Appendix - 4

Relation between Cash (X) and Current Assets (Y) of DNPL

FY	Cash (X)	Current Assets (Y)	XY	x^2	y^2
2059/60	5.65	1289.07	7283.25	31.92	1661701.47
2060/61	4.23	1434.17	6066.54	17.89	2056843.59
2061/62	10.69	1460.85	15616.49	114.28	2134082.72
2062/63	7.48	1434.29	10728.49	55.95	2057187.80
2063/64	1.91	1523.39	2909.67	3.65	2320717.09
2064/65	10.48	1539.73	16136.37	109.83	2370768.47
	∑x= 40.44	**∑y= 8681.50**	**∑xy= 58740.81**	**$\sum X^2$= 333.52**	**$\sum Y^2$= 12601301.14**

Here, let the Regression equation of y on x be

$$Y = a + bx \quad \text{(i)}$$

To find the values of a and b we have the following two normal equation:

$\sum y = na + b \sum x$ (ii)

$\sum xy = a\sum x + b\sum x^2$ (iii)

Substituting the values in equation (ii) and (iii),

8681.5b = 6a + 40.44b. (ii)

58740.81 = 40.44a + 333.52b (iii)

Subtract equation (iii) from (ii) by multiplying equation (ii) by 40.44 and (iii) by 6,

$$351079.86 = 242.64a + 1635.39b$$
$$352444.86 = 242.64a + 2001.12b$$
$$-1365 = -365.73b$$

Therefore, b = 3.73

Now, a = 8681.50 = 6a +40.44b

Or, 8681.50 =6a+(40.44×3.73)

Or, 8681.50 – 150.84 = 6a

Or, $a = \frac{8530.66}{6} = 1421.78$

Now, substituting the values of a and b in equ. (i)

$$Y = 1412.78 + 3.73x$$

Appendix -5

Again, let the Regression equation of x on y be:

$$x = a' + b'y \quad \text{(iv)}$$

Then, two normal equations are:

$\sum x = na' + b' \sum y$ (v)

$\sum xy = a' \sum y + b' \sum y^2$ (vi)

Substituting the values in equ. (v) and (vi)

40.44 = 6a' + 8681.50b' (v)

58740.81 = 8681.5a' + 12601301.14b' (vi)

Subtract equ. (vi) from (v) multiplying equ. (v) by 8681.50 and (vi) by 6,

351079.86 = 52089a' +75368442.25b'
352444.86 = 52089a' +75607806.84b'

−1365 = −239364.59b'

Therefore, b' = 0.0057

Now, a = 40.44 = 6a' +8681.50b'

Or, 40.44 = 6a'+(8681.50× 0.0057)

Or, 40.44 = 6a'+ 49.4846

Or, 6a' = -9.045

Or, a' = -1.5075

Now, substituting the values of a and b in equ. (iv)

x= a'+b'y

or, x = -1.5075 + 0.0057y

Appendix -6

Relation between cash (X) and A/R (Y) of DNPL

FY	Cash (X)	A/R (Y)	u = X-$\bar{X}$	v= Y-$\bar{Y}$	u^2	v^2	*uv*
2059/60	5.65	250.34	-1.09	34.61	1.19	1197.85	-37.72
2060/61	4.23	247.16	-2.51	31.43	6.30	987.84	-78.89
2061/62	10.69	221.75	3.95	6.02	15.60	36.24	23.78
2062/63	7.48	156.49	0.74	-59.24	0.55	3509.38	-43.84
2063/64	1.91	230.28	-4.83	14.55	23.33	211.70	-70.28
2064/65	10.48	188.34	3.74	-27.39	13.99	750.21	-102.44
	∑X= 40.44	**∑Y= 1294.36**	**∑u= 0**	**∑v= 0**	**$\sum u^2$= 60.96**	**$\sum v^2$= 6693.22**	**∑uv= -309.39**

Here,

$$(\bar{X}) = \frac{\sum X}{n} = \frac{40.44}{6} = 6.74$$

$$(\bar{Y}) = \frac{\sum Y}{n} = \frac{1294.36}{6} = 215.73$$

Calculation of Karl Pearson's Correlation Coefficient

$$(r_{xy}) = \frac{uv}{\sqrt{u^2}\sqrt{v^2}}$$

$$= \frac{-309.39}{\sqrt{60.96}.\sqrt{6693.22}} = \frac{-309.39}{638.95} = -0.48$$

Calculation of Probable Error

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

$$= 0.6745 \times \frac{1-(-0.48)^2}{\sqrt{6}}$$

$$= 0.6745 \times \frac{1-0.2304}{2.4495}$$

$$= 0.6745 \times \frac{0.7696}{2.4495} \quad = 0.21$$

Appendix -7

Relation between cash (X) and A/R (Y) of NEA

FY	Cash (X)	A/R (Y)	u = X- $\bar{X}$	v= Y- $\bar{Y}$	u^2	v^2	*uv*
2059/60	664.60	2284.90	-469.73	-1438.09	220646.27	2068102.85	675514.02
2060/61	1076.15	3380.20	-58.18	-342.79	3384.91	117504.98	19943.52
2061/62	1036.42	3735.71	-97.91	12.72	9586.37	161.79	-1245.42
2062/63	1322.60	3679.70	188.27	-25.29	35445.59	639.58	-4761.36
2063/64	1258.60	4088.00	124.27	365.05	15443.03	133232.30	45359.79
2064/65	1447.58	5151.41	313.25	1428.42	98125.56	2040383.69	447452.57
	∑X= 6805.95	**∑Y= 22337.92**	**∑u= 0**	**∑v= 0**	**$\sum u^2$= 382631.73**	**$\sum v^2$=4360025.21**	**∑uv= 1182263.13**

Here,

$$(\bar{X}) = \frac{\sum X}{n} = \frac{6805.95}{6} = 1134.33$$

$$(\bar{Y}) = \frac{\sum Y}{n} = \frac{22337.92}{6} = 3722.99$$

Calculation of Karl Pearson's Correlation Coefficient

$$(r) = \frac{uv}{\sqrt{u^2}\sqrt{v^2}}$$

$$= \frac{1182263.13}{\sqrt{38263.73}\sqrt{4360025.21}} = \frac{1182263.13}{618.57 \times 2088.07} = \frac{1182263.13}{1291615.81} = 0.92$$

Calculation of Probable Error

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

$$= 0.6745 \times \frac{1-(-0.92)^2}{\sqrt{6}}$$

$$= 0.6745 \times \frac{1-0.8464}{2.4495}$$

$$= 0.6745 \times \frac{0.1536}{2.4495} \quad = 0.04$$

Appendix -8

Relation between Net profit (Y) and Cash(X) of DNPL

FY	Cash (X)	Net profit (Y)	x = X-$\bar{X}$	$x^2 = (x - \bar{x})^2$	y = Y-$\bar{Y}$	$y^2 = (y - \bar{y})^2$	xy = (x-$\bar{x}$)(y − $\bar{y}$)
2059/60	5.65	164.29	-1.09	1.19	82.87	6867.44	-90.33
2060/61	4.23	115.08	-2.51	6.30	33.66	1132.99	-84.33
2061/62	10.69	121.27	3.95	15.60	39.85	1588.02	157.41
2062/63	7.48	45.34	0.74	0.55	-36.08	1301.77	-26.69
2063/64	1.91	12.13	-4.83	23.33	-69.29	4801.10	334.67
2064/65	10.48	30.38	3.74	13.99	-51.04	2605.08	-190.89
	∑X= 40.44	**∑Y= 488.49**	**∑X= 0**	**$\sum X^2$= 60.96**	**∑Y= 0**	**$\sum Y^2$= 18296.41**	**∑XY= 99.68**

Here,

$$(\bar{X}) = \frac{\sum X}{n} = \frac{40.44}{6} = 6.74$$

$$(\bar{Y}) = \frac{\sum Y}{n} = \frac{488.49}{6} = 81.42$$

Calculation of Karl Pearson's Correlation Coefficient

$$(r_{xy}) = \frac{xy}{\sqrt{x^2}\sqrt{y^2}}$$

$$= \frac{99.68}{\sqrt{60.96}\sqrt{18296.41}} = \frac{99.68}{7.81 \times 135.26} = \frac{99.68}{1056.381} \quad = 0.09$$

Calculation of Probable Error

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

$$= 0.6745 \times \frac{1-(-0.09)^2}{\sqrt{6}} = 0.6745 \times \frac{0.9919}{2.4495} \quad = 0.27$$

Appendix -9

Relation between Net profit (Y) and Cash(X) of NEA

FY	Cash (X)	Net Profit (Y)	x = X-$\bar{X}$	$x^2 = (x - \bar{x})^2$	y = Y-$\bar{Y}$	$y^2 = (y - \bar{y})^2$	xy = (x-$\bar{x}$)(y − $\bar{y}$)
2059/60	664.60	-860.70	-469.73	220646.27	279.49	78114.66	-131384.84
2060/61	1076.15	-1953.70	-58.18	3384.91	-813.51	661798.52	47330.01
2061/62	1036.42	-1760.30	-97.91	9586.37	-620.11	384536.41	60714.97
2062/63	1322.10	-1312.80	188.27	35445.59	-172.61	29794.21	-32497.28
2063/64	1258.60	-1267.80	124.27	15443.03	-127.61	16284.31	-15858.09
2064/65	1447.58	314.19	313.25	98125.56	1454.38	2115221.18	455584.54
	∑X= 6805.95	**∑Y= - 6841.11**	**∑X= 0**	**$\sum X^2$= 382631.73**	**∑Y= 0**	**$\sum Y^2$= 3285749.30**	**∑XY= 383989.29**

Here,

$$(\bar{X}) = \frac{\sum X}{n} = \frac{6805.95}{6} = 1134.33$$

$$(\bar{Y}) = \frac{\sum Y}{n} = \frac{6841.11}{6} = 1140.19$$

Calculation of Karl Pearson's Correlation Coefficient

$$(r_{xy}) = \frac{xy}{\sqrt{x^2}\sqrt{y^2}}$$

$$= \frac{383989.29}{\sqrt{6382631.73}\sqrt{3285749.30}} = \frac{383989.29}{618.57 \times 1812.66}$$

$$= \frac{383989.29}{1121259.32} = 0.34$$

Calculation of Probable Error

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

$$= 0.6745 \times \frac{1-(-0.34)^2}{\sqrt{6}}$$

$$= 0.6745 \times \frac{0.8844}{2.4495} = 0.24$$