# CHAPTER - I
## INTRODUCTION

### 1.1 General Background of the Study

Nepal has made great progress in recent decades transitioning from an isolated medieval kingdom with no infrastructure to a modern state. Poverty reduction remains the greatest development challenge for this nation of 23.1 million. More than 45% of population lies below the poverty line. Many of its social indicators are among the lowest worldwide:  nearly 40% of its population lack access to basic healthcare and education; half Nepal's children under the age of five are malnourished; 80% of its citizens rely on subsistence agriculture, even as only 20% of Nepal's rugged Terrain is arable. Agriculture is the backbone of Nepalese economy, means of livelihood for the majority of population and the main source of gross domestic production, income and employment because half the country's population is crowded into the hilly, fertile southern Terai region. But non-agricultural sectors have also significant contribution in the national economy. Until 1951 Nepal has largely been isolated from the international community, though this has gradually changed as transportation links with the outside world have improved and Nepal has joined regional or international organizations such as the United Nations, International Telecommunications Union, SAARC, and the World Bank.

The mountainous kingdom of Nepal has established an attractive investment environment for telecommunication, but implementation of the national sector liberalization plan has lagged behind expectations. The country is landlocked, which increases the costs for transportation and undermines its foreign trade potential. As a part of the Government poverty reduction strategy a new Telecommunication policy is expected in only 2004 to introduce meaningful competition through open licensing and restructuring of the incumbent, state-owned operator, the Nepal Telecommunication Corporation (NTC). Growth in Nepal telecom infrastructure is greatly contributed in the economic progress of

the country. Nepal Telecom has played an important role in the nation building endeavor by rapidly deploying all kinds of telecom services throughout the country, including remotest villages. Its contribution towards the overall socio-economic development of the nation is noteworthy.

The reason behind Nepal's underdeveloped economy is not only due to lack of resources but it is due to lack of proper utilization of resources. For the productive and effective utilization of resources there must be proper plan, strategy and control system. Management is concerned with the efficient use of scarce resource for the productive result. It requires a process of planning, organizing, controlling and feedback. These various activities are interrelated.

Business analysts report that poor management is the main reason for business failure. Poor cash management is probably the most frequent stumbling block for entrepreneurs. Cash is the business's life blood; it is ready money in the bank or in the business. Managed well, the company remains healthy and strong; managed poorly, the company goes into cardiac arrest. If the company can't consider cash management as an important issue, then it probably undermines its business's short-term stability and its long-term survival.

Cash management is one major responsibility to management so as to plan, control and safeguard cash in enterprise. Planning and controlling cash needs focus on cash inflows, cash outflows and financing. Budgeting is used as an important tool for effective management of cash. Cash budgeting facilitates management to plan and control cash flow, assess cash need, monitor the exposure and ensure effective use of excess cash. A strong cash management tool is essential to execute the company's financial strategy in a world of intense competition, ever changing e-business opportunities and economic volatility.

## 1.2 Statement of the Problems

In this global age every country should meet the challenge through the economic development. The number of public limited companies is being increasing tremendously in response to the economic liberalization and global policies adopted by the Nepalese government. The Nepalese Telecommunications Industry has changed considerably in recent years. However, the development of the Nepalese telecommunication industry has not been without its problems. Many parts of the country are without access to telecommunication services, even though the expansion of the network into remote and rural areas has been a policy objective for several years. Where telecommunication services are available the quality in rural areas is often unsatisfactory, as investment has not kept pace with demand.

With high capital investment Nepal Telecom is a leading and successful public limited company functioning in the public utility sector financed by Government of Nepal and many donor agencies. Now, it is facing market competition with telecommunication service provides in some area. The past success of Spice Nepal, United Telecom Limited, Space time Network and the Mercantile Group have demonstrated that they are innovative and well managed. So, now it must prepare and strengthen existing competency to achieve productive output by optimum utilization of resources. The management must focus an implementation of effective and appropriate action plans, strategies and control mechanism.

Managing cash flow is the most important job of business managers. It has the most intricate and challenging area of modern corporate finance as much as the management always faces a trade-off between the liquidity and profitability of the company though most of the enterprises in Nepal have well recognized the importance of proper cash management, they are still facing the problem of cash management. By and large, most enterprises experience periodic accumulation of surplus cash and corresponding cash shortage from time to

time. Cash management refers to the proper management of firm's/business cash position. The organization needs cash primarily to pay its obligations. If at any time a company fails to pay an obligation when it is due because of the lack of cash, the company is insolvent. Insolvency is the primary reason firms go bankrupt. The prospects of such a dire consequence should compel companies to manage their cash with care. Moreover, efficient cash management means more than just preventing bankruptcy. It improves the profitability and reduces the risk to which the firm is exposed. Cash is also held for precautionary motive to meet any contingency in the future and lastly the handling of cash to speculative motive to the desire of a firm to take advantage of opportunities.

Many companies experience cash management difficulties but entrepreneurs and managers can take steps to minimize the impact of such problems and help maintain the continued viability of the business. However the study of cash management has not received so much attention as in recent years. This study, therefore attempts to analyze the nature of improvement in cash management and the linkage between different component and their variables.

## 1.3 Objective of the Study

Objective is the guideline for the study to be conducted in systematic manner. The major objective of the study is to explore how cash is managed in Nepal Telecom.

The specific objectives of the study are:

- To examine the existing internal control policy of cash transaction of Nepal Telecom.
- To analyze the cash flow structure and cash management techniques practiced by the company.
- To study the liquidity position of the company.
- To identify the shortage or excess of cash in the company.

- To examine the efforts to collect an outstanding payment owed to the company.
- To make relevant suggestions and practical ideas on the basis of financing and analyzing of data.

## 1.4 Significance of the Study

Cash management is one of the most important functions in any organization. It is broad area having to do with the collection, concentration and disbursement of cash including measuring the level of liquidity, managing the cash balance and short-term investments. A proper cash management considerably contributes to improve the overall financial performance and leads the organization towards success. An organization cannot achieve its goal unless cash is controlled effectively and capital is allocated properly. Proper cash management helps an organization to manage the cash cycle efficiently with control and to forecast cash flows in multiple time periods. Also the study of and the concept of cash management helps the manager to plan for the unforeseen eventualities that nearly every organization and every business faces.

The study of cash management in the context of Nepal Telecom will be beneficial for the management of the company to make cash properly and to make sound strategy in future for cash management system. The study will give the information about the strength and weakness position of Nepal Telecom. It will give the solution for manage liquidity and control cash in systematic manner. The study will also provide the knowledge about optimal cash balance.

Apart from, this study will be a matter of interest for academicians, students, teacher, researcher or practicing in the field of finance.

## 1.5 Limitation of the Study

As every research has its own limitations, this study is not biased. Basically the research is done for the partial fulfillment of Master in Business Studies program of Tribhuvan University. So, it has some limitations, which are listed below.

- The study covers the relevant data and information only for five years i.e. from fiscal year 2061/062 to 2065/066.

- Major portion of analysis and interpretation have been done on the basis of available secondary data collected from Nepal Telecom and various published documents of the organization.

- Time and financial constraint are also the major limitation of the study.

- The study is based on the cash management of Nepal Telecom therefore the result may not applicable to other enterprises.

- The study is concentrated in cash transaction of Nepal telecom It does not cover its other area.

- The researcher being the beginner in this area, this report cannot remain without flaws. Best effort has been done to make this report with minimum error. Being almost impossible without error, existence of unnoticed errors is also a major limitation of the study.

## 1.6 Organization of the Study

This study has been divided into five chapters and is organized as follows.

### Chapter - I: Introduction

The first chapter is the introduction chapter, which consists of background of the study, introduction of the organization, statement of problem, objectives of the study, significance of the study, limitation of the study and organization of the study.

**Chapter - II: Review of Literature**

The second chapter deals with review of literature with concept of some terminologies. It consists of review of books, journals, previous study, research papers and review of unpublished thesis of various researches.

**Chapter - III: Research Methodology**

The third chapter deals with research methodology used in this study. It consists of research design, source of data, population and sample, data collection procedure and analysis of data.

**Chapter -IV: Presentation and Analysis of Data**

Fourth chapter is the analytical presentation of the study. This chapter consists of analysis, interpretation and major findings of the study. This is the most important part of the study.

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

Fifth chapter deals with the summary, conclusion and recommendation of the study.

The bibliography and appendix are given thereafter.

# CHAPTER - II
# REVIEW OF LITERATURE

## 2.1 Meaning of Cash Management

Cash management is a term used of how financial managers manage money. Cash management is board term that refers to the collection, concentration and disbursement of cash. It encompasses a company and its level of liquidity, management of company's cash balance and its short term investment strategies. Cash management can have several definitions such as 1.) The efficient management of cash in a business in order to put the cash to work more quickly and to keep the cash in applications that produces income, or 2.) Accounting for the cash outlays and the recovery of cash, or 3.) A strategy by which a company administers and invests its cash and finally, 4.) The control of cash collections. It is a responsibility for financial managers to run an effective organization and the task is to maximize an organization value, and the value is determined on the cash flow. Cash management is a significant concept in success of an organization. If cash management is not a significant value of an organization, it will undermine the organization short term stability and its long term continuation. Mismanagement is the main reason for the business failure and demise. Having sound and secure financial goals begin with proper management of cash. Cash management is the foundation of company's financial building and should be treated as such.

The management of cash has been regarded as one of the conditioning factors in the decision making issues. It is no doubt, very difficult to point out as to how much cash is needed by a particular company but it is very essential to analyze and find out the solution to make an efficient use of funds. If any time a company fails to pay an obligation when it is due because of the lack of cash , the company is insolvent. Insolvency is the primary reason firm's go bankrupt. Moreover, efficient cash management means more than just preventing

bankruptcy. It improves the profitability and reduces the risk which the firm is exposed. It is only natural that major business expenses are incurred in the production of goods or the provision of services. In the most cases, a business incurs such expenses before the corresponding payment is received from costumers. In addition, employee salaries and other expenses drain considerable funds from most business. These factors make effective cash management an essential part of any business.

"Cash Management involves managing the monies of the firm in order to maximize cash availability and interest income on any idle funds. At one end, the function starts when a customer writes a check to pay the firm on its account receivable. The function ends when a supplier an employee or the government realizes collected funds from the firm on account payable or accrual" (Van Horn, 1991:394).

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

Cash is ready money in the bank or in the business. It is not inventory, it is not account receivable and it is not property. These can potentially be converted to cash, but can't be used to pay suppliers, rent or employees. Cash is the most liquid asset, is of vital importance to the daily operation of business firm. Cash is both the beginning and the end of working capital cycle i.e. cash, inventories, receivable and cash. Its effective management is the key determinant of efficient working capital management. Cash is like the blood stream in the human body gives vitality and strength to business enterprises.

"Cash is lifeblood of the business, which is the most important component of the working capital. It is the most liquid assets, have vital important to daily operations of the firm" (Chandra, 1984:282).

9

"Cash is 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 you need to do business. It is expressive keeping your capital tied up in large inventories of raw materials when it could be earning interest" (Brealey and Myers, 1999:884).

Today's financial market has progressively become more volatile and driven by demand for growth and bottom line profitability. According to J.M Keynes "It is cash which keeps a business going. Hence every enterprise has to hold necessary cash for its existence. Adequate supply of cash is necessary to meet the requirement of the business. Holding of cash balance is has an implicit cost in the form of its opportunity costs. The highest the level of idle cash the greater is the cost of holding in the manner of loss of interest, which could have been earned either by investing it in securities or by reducing the burden of interest charges by paying off the loan taken previously. If the level of cash balances is more than the desired level with the firm, it shows mismanagement of funds. Therefore, for its smooth running and its maximum profitability, proper and effective cash management in a business is of paramount importance.

## 2.2 Efficiency of Cash Management

One of the most critical functions of a company's financial manager is that of cash management. Since, inventory and demand for cash change on a daily basis, the financial manager must be knowledgeable in the most effective ways to manage the cash a firm has, along with the most efficient ways to obtain cash as needed. For improving the efficiency of cash management, effective method of collection and disbursement should be adopted (Shrestha, 1980:62). Some methods for efficiency of cash management are briefly described below.

**2.2.1 Speedy Cash Collection**

Efficient cash management is possible only when the collection of cash is accelerated.

Collection process may be speeded up in any of the following manners.

- The mailing time of payment from customers to the firm may be reduced.
- The time during which payments received by the firm remain uncollected may be minimized, it includes the time a company takes in processing the cheques internally and the time consumed in clearance of the cheque through the banking system.

Following techniques are considered to be useful to accelerate the collection

**i) Concentration Banking**

To speed up collection, collections should be decentralized as far as possible. If, instead of one collection center, there are number of collection centers for the purpose, collections would certainly be speeded up. This procedure is named as concentration banking. Through this procedure, the mailing time of the customer is reduced. Customers of a particular region may be directed to deposit/remit their payments to a collection center will deposit the payments received in the local bank regularly, which is generally at the firm's head office. This concentration bank or central bank can get the payments by telegraphic transfer or by telex, as per instructions given by the firm. The collection centers may themselves collect the cheques or the cash payment from the customers, instead of customers remitting the payment to the collection centers.

**ii) Lock Box System**

Under this system, the time required in collecting the payments, processing them and finally depositing them in the local bank accounts is further reduced. Before determining the collection centers a feasibility study is made of the possibility of checks that would be deposited under alternative plans. In this regard operations research techniques have proved useful in the location of

lock box sites. A lock box is hired by the firm at each collection center and the customers are instructed to mail through remittance of the box. The remittance is picked up by the local bank directly from the lock box as per instructions given by the firm. The bank can pick up mail several times a day and deposit the checks in the amount of the firm. A record is kept by the bank regarding the checks deposited and is sent to the firm as and when required. Te main disadvantages of such system is the cost involved of making such arrangements hiring post office box and loading the bank with additional burden of work entail costs and sometimes it may be uneconomical for the firm to adopt such a system.

### iii) Collection Through Messengers

Certain firms like to send messengers at the places of customers to collect the payments. It certainly reduces the mailing time but increase the cost of collection in terms of the travelling costs of messengers.

To conclude, whatever system of speeding up collection is adopted, the costs are to be compared with the benefits derived there from.

### 2.2.2 Slowing Disbursement

Disbursement is the opposite of collection. Here, the firm strives to slow down payments. 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 account 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 losing goodwill, cash availability is certainly enhanced. There are some techniques to delay are; centralized payments, paying the float and payments on due dates only.

### 2.2.3 Cash Velocity

Efficiency of the use of cash depends upon the cash velocity, i.e. level of cash over a period of time.

$$\text{Cash Velocity} = \frac{\text{Annual Sales}}{\text{Average Cash Balance}}$$

### 2.2.4 Using Float

Float is an advantage to the firm as a buyer and disadvantage to the firm as a seller. Float is the lag between the time the cheque is written and the time the firm's bank receives it. A firm may have less balance in its bank account but the firm may issue a cheque to its supplier because the supplier would present the cheque to his bank for payment only when he receives it after few days.

### 2.2.5 Overdraft System

Overdraft is a system where by deposits may write cheque in excess of their balances with their books automatically extend loan to cover the shortage. Most of the foreign countries use overdraft system.

### 2.2.6 Minimum Cash Balance

Corporations are required to keep a minimum cash balance requirement of bank either for service it renders on in consideration of lending arrangement.

### 2.2.7 Synchronization of Cash Flows

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 demonstrate as low cash flows can be improved through more frequent requisitioning of fund to divisional offices 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 or 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.

### 2.2.8 Transferring Funds

There are two methods for transferring funds, Check Wire Transfer and Electronic depository transfer. With a Wire transfer, funds are immediately transferred from one bank to another even in a different city. It is the fastest way to move cash between banks, eliminating transit float. An Electronic Depository transfer check is a paperless electronic image transfer via the Automated Clearing house network. The EDTC avoids the use of the mails and has a uniform one business-day clearing time. Electronic Depository Transfer checks are generally initiated by central company management.

### 2.2.9 Special Holding of Cash

To meet the standards of the line of business in which firm is engaged, and to take the advantage of the available business opportunities, the firm may like to have sufficient cash balance. Credit standing can be maintained if the firm has sufficient cash. Certain companies maintain cash balance to take advantage of the trade discount and cash discounts, which may be available to them on the basis of the terms of sale. Emergencies like strikes, floods, fire etc can be met out successfully only when the firm has sufficient liquidity.

### 2.3 Motives for Holding Cash

There are four primary motives for holding cash.

### 2.3.1 Transaction Motive

The principal motive for holding cash is to enable the firm to conduct its primary 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.

### 2.3.2 Precautionary Motive

The precautionary motive for holding cash relates primarily to predictability of cash inflows and outflows. Precautionary cash balance serves to provide a cushion to meet unexpected contingencies. Another factor that strongly influences the precautionary motive is the ability to borrow additional cash on short notice for unforeseen obligation.

### 2.3.3 Speculative Motive

It refers to the desire of a firm to take advantage of opportunities which presents themselves at unexpected moments and which is typically outside the normal course of business. While the precautionary motive is defensive in nature, the speculative motive represents a positive and aggressive approach.

### 2.3.4 Compensating Motive

It is to compensate banks for providing certain services and loans. Compensating balances represent the minimum levels that the firm agrees to maintain in its checking account with the bank. With this assurance, the bank can loan such funds on a longer basis, earning return, which is a indirect fee to the bank.

### 2.4 Techniques for Effective Cash Management

There are various tools and techniques for effective and efficient cash management, which are discussed as follows:

### 2.4.1 Cash Planning

Cash planning can help anticipate future cash flows and needs of the firm and reduces the possibility of idle cash balance and cash deficits. The nature of business, credit position, the amount of sales, time required in conversion of accounts receivable etc are determine the normal cash requirement of a firm. Cash plans are very crucial in developing the overall operating plans of the firm. Cash planning may be done on daily, Weekly, or monthly basis. It

depends upon the nature, size and status of the business and philosophy of management. "Cash planning is a technique to plan, for and control the use of cash" (Pandey, 1999:483). Therefore costs may be based on the present operations or anticipated future operation.

### 2.4.2 Cash Budget

Cash budget is the most significant device to plan for and control cash receipt and payment, a cash budget is a summary statement of the firm expected cash inflows and outflows over a projected time period (Pandey 1999:843). Cash budget throws light not only on the amounts of inflows and outflows expected during a budget period, but also helps managements 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-terms loan and if cash surplus is expected, it may be managed by investing the amount in readily marketable securities. The time horizon of cash budget may differ from firm to firm. It may be prepared on weekly, monthly or yearly basis.

### 2.4.3 Cash Forecasting

A useful tool to deal with the forecasting aspect of cash budget is the cash forecast. Cash forecast is needed to prepare cash budget. Cash forecasting may be done short or long term basis.

### i)   Short term Cash Forecasting

Generally forecasts covering period of one year or less are considered as short term forecast. The important functions of short term forecast are to a) determine operating cash requirement, b) anticipate short term financing and c) manage investment surplus cash. Three most common used methods of short term forecasting are described as below.

## a) Receipt and Disbursement Forecast

The prime aim of receipt and disbursement forecast is to summarize these flows during a predetermined period. In case of those companies where each items of incomes and expenses involves flow of cash, this method is favored to keep a close control over cash.

## b) Adjusted Net Income Method

This method is also called the sources and uses approach. In this approach there are two objectives, i.e. to protect the company's need for cash at some future date and next to show if the company can generate cash internally and if not how much will have to borrow or raise from the capital market. It is based on Performa financial statement.

## ii) Long term Cash Forecasting

These types of forecasts are prepared to give an idea of the company's financial requirement of distant future. Long term cash forecasts may be made for two, three, or five years. The major uses of long term forecasts are:

a. To indicate company's future financial needs especially for its working capital requirement.

b. To evaluate proposed capital projects. It pinpoints cash required to finance these projects as well as the cash to be generated by the company to support them.

c. It helps to improve corporate planning. Long term cash forecast compel each division to plan for future and formulate project carefully.

## 2.5 Determining the Optimum Cash Balance

Financial manager responsibilities are to maintain a sound liquidity position of the firm, so that dues may be settled in time. There are numerous way to measure the liquidity including: cash to total assets ratio, current ratio (current assets divided by current liabilities), Quick ratio (current assets less inventory, divided by current liabilities) and the net liquid balance (cash plus marketable

securities less short term notes payable, divided by total assets). The higher the number generated by the liquidity measure, the greater the liquidity and vice versa. There is a trade off, however between liquidity and profitability that discourages firms from having excessive liquidity. Liquidity cash balance must be maintained at the optimum level, it is the level which gives minimum cost of holding the liquid balance. If the firm maintained a small cash balance, its liquidity position becomes weak and suffers from shortage cost. It means it has low capacity of cash to make payments. If the firm maintained a high level of cash balance, it will have a sound liquidity position but it remains idle and therefore it involves opportunity costs. It means the firm foregoes the opportunity to earn interest. The combination of opportunity cost and shortage costs gives the total cost of maintaining liquid balances at various levels. The point which gives the minimum total cost is the point of optimum liquid balance representing a trade –off of shortage cost against opportunity cost. The following graph shows the position clearly.

**Figure 2.1**

**Optimum Cash Balance**



Cash and Marketable Securities
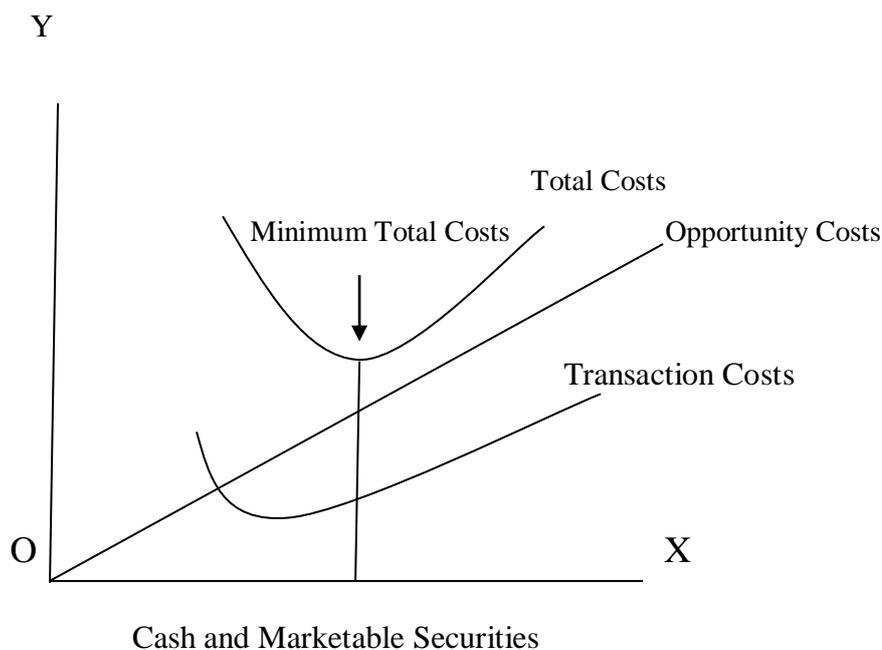
If the firm maintains larger cash balances its transaction costs would decline but the opportunity costs would increase. At point 'E' the sum of the two costs is minimize. This is the point of optimum cash balance, which a firm should sack to achieve.

## 2.6 Cash Management Models

There are different types of analytical model for cash Management. Some of them are describes below.

## 2.6.1 Baumol 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 is invested in the marketable securities. Baumol Model is one of the methods that can be used for this purpose. The Baumol Model is similar to the Economic Order Quantity (EOQ) Model. Baumol Model is based on the assumption that ( 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 costs that increase and other costs such as transaction costs that decrease as cash balance increase (Baumol, 1952:545-5560).

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

$$C* = \sqrt{\frac{2Tb}{i}}$$

Where,

C* = the optimal size of the cash transfer

T = the total cash usage for the period of time

B = Transaction cost per transaction

i  = Opportunity cost of holding cash or interest rate on borrowing

One shortcoming of this model is that it accommodates only a net cash outflow situation as opposed to both inflows and outflows.

## 2.6.2 Miller-Orr Model

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 Miller-orr Model rectifies some of the deficiencies of the Baumol Model by accommodating a fluctuating cash flow stream that can be either inflow or outflow. 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 run. 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 lines limits (Miller, 1966: 413-435).

The Miller-Orr Model has an upper limit U and lower limit L. When there is too much cash and U is reached, cash is taken out (to buy short term securities to earn interest) such that the cash balance goes to a return (R) point. Otherwise, if there is too little cash and L is reached, cash is deposited (from the short-term investments) to replenish the balance to R (return). The lower limit in the model is set by other managerial decision to meet emergency need or required by bank to maintain compensating balance in the account.

Mathematically, the model is set as follows:

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

The lower limit L is given, the model calculate the Z and U

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

$$= 3Z - 2L$$

The average cash balance (C) is obtained as follows:

$$C = \frac{4Z - L}{3}$$

Where,

Z = target cash balance

F = Fixed transaction cost per transaction

$\sigma^2$ = Variance of net daily cash flows

i = daily interest/ opportunity cost

L = lower limit

U = Upper Limit

### 2.6.3 Orgler's Model

According to this model, an optimal cash management strategy can be determined through the use of a multiple linear programming model comprise three society i) selection of the appropriate planning horizon. ii) Selection of the appropriate decision variables. iii) Formulation of the cash management strategy itself. The advantage of linear programming model is that it enables co-ordination of the optimal cash management strategy with other operation of the firm such as production and with less restriction on working capital balance (Orgler, 1970:220).

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 then any cost is immediately financed. The objective recognizes each operation of the firm that generates cash inflow or cash outflows adding or subtracting profit opportunities for the firm in cash management operations. In the objective function decision variables, which cause inflow such as payment on receivables, have positive coefficient, while

decision variables, which generates cash outflows, such as interest on short –
term borrowings, have negative coefficient. The purchase of marketable
securities would for example produce revenue and there have a positive co-
efficient while the sale of those securities would incur conversion costs and
have a negative co-efficient.

The constraints of the model could be institutional or policy constraints. The
institutional constraints are those imposed by external factors. For instance, the
financial manager may be prohibited from selling securities before maturity.
Either constraint can occur in the model during on monthly period or over
several or all the months in the one year planning horizon.

AN example of the linear programming model is as follows:

Objective function:    profit = $a_1x_1 + a_2x_2$

Subject to:                    $b_1x_2$    production

$b_2x_2$    Constraints

$c_1x_1 + c_2x_2$  <Cash available constraints

$d_1x_1 + d_2x_2$  >Current assets requirement constraints

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

**2.7 Cash Cycle**

The cycle refers to the process by which cash is used to purchased goods,
which are then sold to customers, who later pay bills (Solmon and pringle,
1978:413-178).

The cash cycle involves several steps along the way as fund flow from the firm
account as shown as below:

**Figure 2.2**

**Cash Cycle**
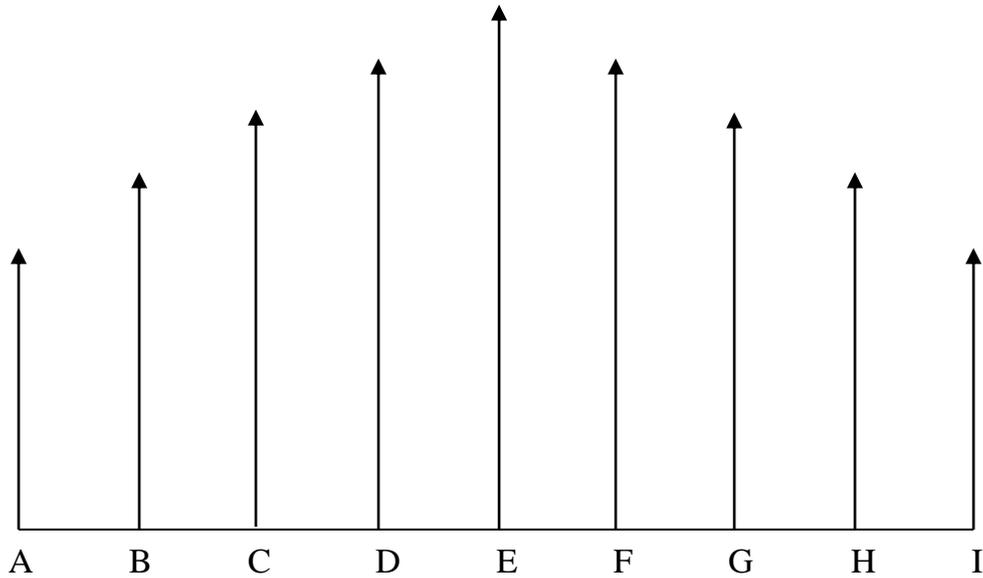


Where,

      A= Materials order

      B= Material received

      C= Payment

      D= Cheque clearance

      E= Goods sold

      F= Customer mails payment

      G= Payment received

      H= Cheques deposited

      I= Funds collected

In addressing ourselves to the cash management strategies, we concerned with the time periods involved in stages B, C, D and F,G,H, I. It may be mentioned that a firm has no control over the time involved between stages A and B the lag between D and B is determined by the production by credit terms and the payment policy of customers. The hypothetical example explains that the corporation needs 60 days or two months to collect funds from the beginning of

materials ordered to have ultimate cash. It takes 14 days to receive ultimate cash. It takes 14 days to receive materials from suppliers and adding 20 days for payment and still 2 days assumed for clearing the cheque. Sales of inventory take 48 days to have complete clearing off stocks and days are taken for payment receipt, cheque deposit and ultimate collection. This is applicable only for direct selling of customer goods but in a manufacturing concern the time lag may be still greater.

## 2.8 Review of Related Studies

In this section an attempt has been made to review some journals, thesis/dissertation and other related publications related to cash management.

## 2.8.1 Review of Journals

Baumol (1952), at his article *"The Transaction Demand for Cash: An Inventory Theoretic Approach"* on quarterly journal of economic (Vol. LXV) identifies cash maintenance as analogues to inventory 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 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.

Miller and Orr (1996), in their article *"A Model of the Demand for money in firms"* on quarterly journal of economic, (Vol. LXV) 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.

Saksena (1974), at his article, *"Towards More Efficient Cash Management"* on quarterly journal of management quality (Vol.No. 5) 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 want, the lawyer the view that cash is 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 its optimal use.

Miltzer (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."

According to 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 Miltzer's model. He hypothesized that the cash holding of the firm is not only for transaction purpose but also as an investment.

Sprenkle (1967) in their article *"Large Economic Units, Banks and the Transactions Demand for Money"* on quarterly journal of economic, (Vol. LXXX, 436-442) have assumed that money had all the attributes of ordinary inventories 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 Miltzer only in that Meltzer estimated the demand equation for individual industry for each year, whereas, Vogel and Maddala employed the dummy variables end 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.

### 2.8.2 Review of Related Thesis

In this section the review of thesis relatively to cash management have been considered.

Giri (1986) conducted the study in *"Working Capital Management"*. According to his study, the goal of working capital is to manage each of the firm current assets efficiently in order to maintain the firm's liquidity while not keeping any assets as to high level. Cash is the most liquid assets (current assets), if the common denominator all can be reduced because the major liquid assets i.e. receivable and inventories get eventually converted into cash.

Pradhan (1989) conducted the study on *"Working Capital Policy of Manufacturing Public Enterprises (MPES)"* in Nepal. In his study he sought to sort out the problem of low 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 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 in MPES. The major findings of the study are:

- Almost all selected MPES had followed a moderate working capital approach. The holding of cash and receivables in relation to total asset was decreasing whereas the inventory was increasing.

- The selected MPES had sufficient liquidity.

- There are improvements in the use of current assets in selected MPES. There was high turnover of cash and receivable in comparison to inventory

- 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 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.

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

a. To critically review cash management techniques practiced by Nepalese Public Enterprises,

b. To examine the demand for cash in the case of Nepalese Public Enterprises,

c. To suggest appropriate cash management policy for the future.

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

1. Cash management in the Public Enterprises of Nepal primarily based on the traditional practices, lacking in 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 behavior 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 had 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.

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

- 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.

- Managing the cash flows so as to accelerate the inflows and as for as possible, to decelerate out flows.
- Optimizing the level of cash balance by matching the cost of holding excess cash and danger of cash deficiency.
- 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 depend upon the efficient management of cash.

Shrestha (1994) conducted the *"Study on Working Capial Management of Bansbari leather and Shoe Factory"*. He suggested the factory 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 and working capital.

Pradhan, (1997) conducted a case study of cash management in Salt Trading Corporation Limited. According to his study, he concluded that,
- STCL could not make the best of available cash balance prudently.
- The cash collection efficiency in this corporation is very low.
- The collection of trade credit in the corporation is low during three years of study period.
- Management has taken liberal credit policy to sales of goods. Hence the cash and bank balance of study period is minimum account receivable (A/R).
- No, optimum cash balance is maintained. The cash and bank balance with respect to current assets has been fluctuating trend. Similar in the case with respect to the total assets.

Gautam (1999) conducted the *"Study on Cash Management of Gandaki Noodles Pvt. Limited by using six years data of 2048/049 to 2053/054"*. The objectives of the study are 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 (2003) conducted another study in the title of "*A study on cash management of United Mission Hospital Tansen"* by using six years data from 2054/055 to 2059/060. The objectives of his study are as follows:

- To have true insights into its present cash management
- To present the existing cash managent of Hospital.
- To expand few suggestions on the basis of analysis to improve the cash management for future.

Sainju (2003) conducted the study on *"Cash Management in Public Manufacturing Enterprises of Nepal: A Case Study of Royal Drugs Limited".* He had made conclusion indicating the poor cash management practices of Royal Drugs Limited (RDL). He concluded that:

- Overall cash management practices have been found disappointing.
- Overall liquidity position of the firm has been found moderately dissatisfactory.
- Overall, yearly cash inflow and outflow in RDL is not properly managed.
- Surplus cash hasn't been properly employed to earn return by investing in short term investment opportunities.
- Profitability has been found in very weak position.
- Overall cash budgeting prctice of RDL is very poor.

On this study payable deferral period, inventory conversion periods and receivable collection period and their aggregate effect as cash management has not been identified i.e. cash conversion cycle of the company has not been

identified which helps to analysis overall status of collection of cash in organization.

Neupane (2004) conducted the study of *"Cash Management in Nepalese Public Enterprises: A Case Study of Salt Trading Corporation Limited"*. He had noticed some issues and constraints while analyzing the management of cash in STCL, which are as follows:

- Absence of forecast and plan: It is observed that the cash management is least concerned to forecast of cash for the coming period. The cash forecasting is completely lacking in the corporation. The fluctuating trend of cash deficit reveals the fact clearly.

- The lack of acuurate and proper sales forecast is one of the important constraints that affect the financial performance of the corporation. If the corporation forecasts the expected sales accurately, it can manage the various activities accordingly.

- The quality of management itself is a scarce factor in STCL. The performance of STCL exibits that the management lacks basic knowledge of financial management.

- Restrictive credit policy is one of the important constraint that affected the sales volume of the corporation. If it adopts liberal credit policy, it can increase the sales volume and the receivable turnover by employing a very restrictive credit policy.

- Due to certain constraints in management, STCL denied to provide information except balance sheet and profit and loss account, which are not sufficient for analysis of cash management.

He had concluded that many factors or determinants such as nature of business, level of sales, credit terms, quality of customers, economic condition etc. have to be considered in cash management.

Shrestha (2005) conducted a research on the topic, *"Cash Management in Public Manufacturing Enterprises of Nepal: A Case Study of Royal Drugs Limited"*. His major objective is to examine the management of cash in RDL. The other objectives of this study are to make the analysis of cash flow of RDL, To examine the liquidity position of RDL and to analyze the cash budgeting practice. From the study he had found that the current assets and quick assets are not being maintained in accordance with current liabilities and large portion of RDL's current assets has been tied up in the most liquid asset i.e. inventory. He had suggested to adopt the following recommendation for better cash management.

- Recommend to maintain optimum cash balance every year.
- Recommend to prepare cash flow statement
- Recommend not tie-up current assets in unsaleable inventories
- Maintain optimum current assets variables and current liabilities every year.

Chataut (2008) conducted the study on *"Cash Management in Nepal Telecom"*. The objectives of his study are as follows:

- To observe devices of planning and control of cash in NT.
- To examine the existing internal control policy in NT regarding cash control practices.
- To identify the shortage of excess of cash in the company and the procedures of financing for the shortage and investment of excess cash.
- To study the liquidity position of the company.
- To analyze the gap between budgeted and actual sources and uses of cash and its trend.
- To review cash flow from operating, financing and investing activities.
- To suggest and recommend NT based findings.

Bhandari (2008) conducted the study on *"Cash Flow Analysis of Nepal Telecom"*. The main objectives of his study are as follows:

- To analyze the trend of cash flow of NTC.
- To identify the strengths and weakness of cash management of NTC.
- To reflect ability to generate cash flow in future periods
- To provide suggestions and recommendations for future improvement of cash flow and cash management.

According to his study he concluded that,

- Regular financing activities of NTC are long term debt receipt/payment, dividend payment and repayment of retained earning to Nepal Government.
- Operating profit before adjustment of working capital is in positive growth for every year.
- There is not scarcity of cash during the period to operate its general activities.
- Overall activities are satisfactory.

Ban (2009) conducted the study on *"Cash Management in Public Manufacturing Company: A Case Study of Bottlers Nepal Limited"*. The objectives of his study are:

- To study of existing cash management system in BNL.
- To critically review the cash management technique practiced by BSNL.
- To suggest appropriate cash management policy for the future.

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

- Cash Management in the BNL is primarily based on the practices lacking in scientific approach.
- The BNL could not make the best use of available cash balance prudently.

33

- 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 BNL.

- The cash turnover time is in the fluctuating trend over the study period.

- Management has taken liberal credit policy to sales of goods. Hence the cash and bank balance of the study period is minimum of account receivable.

- No optimum cash balance is maintained. The cash and bank balance with respect to current assets is in the fluctuating trend.

Shrestha (2009) conducted the study on *"Cash Management Practices in Nepal Telecom"*. The major objective of the study is to examine the management of cash in Nepal Telecom. The major findings of his study are as follows:

- Public sector enterprises play backbone role for economic development of the nation.

- Specific goal and strategy for the organization are setup by the top level executive and the management is governed by government of Nepal.

- The main source of cash of NTC are international trunk telephone, local telephone and domestic trunk telephone both of PSTN and mobile.

- The actual cash balance were higher than approved budgeted amount. It shows that there was no effective implication of budgeted amount.

- When comparision is made between actual cash source and actual cash uses, there was big deviation resulting surplus. So, it shows that budget was not implement properly and surplus was not used in productive investment.

- 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.

- Current ratio shows that NTC is efficient in mainting the good liquidity position.

- Cash flow analysis shows strong financial position of the company.
- Cash budgeting practice of NTC is poor.
- NTC does not follow the periodic performance reports.
- NTC has not adequetely considered controllable and uncontrollable variables affecting the company. Similarly, the company is lacking the proper system of performance evaluation of employee.

Nepal telecom is non-manufacturing company and most of its transaction is done in cash basis. It is one of the major contributors to the revenue of the government. Besides this, stakeholders have various level of interest on the company. Cash management of Nepal Telecom; a service oriented company has great importance in overall planning and control of the company. So this is legitimate reasons for studies in some aspects of cash management practices of NTC and the researcher has chosen this topic of interest. The researcher mainly focuses the study on the analysis of cash budget, cash position, surplus/deficit, liquidity position and internal control policy regarding cash management practices of the company.

## 2.9 Research Gap

The review of above relevant literature has contributed to enhance the fundamental understanding and knowledge, which is required to make study meaningful and purposive. There has been lots of article published related to cash management of nepalese public enterprises. All have pointed out that there is no proper planning and control system in the Public Enterprises to achieve the goal and objectives. Thus this study is designed to highlight the effect of cash position, Surpus/defict, liquidity position regarding cash management practices of the company. Since there are no any recent study has been made, this study emphasized the effect of cash management of NTC. On the other hand while reviewing other studies on cash management analysis, the researcher found that the ratio are not properly analyzed, what actually the ratios indicate is not clear. So, this study has tried to analyze the different ratios

in order to make fruitful analysis on the cash management of NTC and recommended practical suggestions for the betterment of NTC.

# CHAPTER - III
# RESEARCH METHODOLOGY

## 3.1 Introduction

A careful investigation or inquiry especially through search for new facts in any branch of knowledge is research. Methodology indicates the method with which data have been extracted and discussed the tools that have been used in interpretation of such data to fulfill the objectives. More specifically, it describes about the research design, the population and sample, nature and sources of the data and tools that will be used to analyzed the data. Every study needs a systematic methodology to show the better results of the research. In this study, a cash management of Nepal Telecom also needs an appropriate research method. For the purpose of this study only secondary data have been used which were available from NTC, central office, Bhadrakali, Kathmandu.

## 3.2 Research Design

According to J.B Johnson and R.A Joslyn, "Research design is a plan that shows how researchers intend to fulfill the goal of purposed study." A well settled research design is necessary to fulfill the objective of this study. It means definite procedures and techniques that guide to study and propounds way for research viability. This study aim is to evaluate managerial efficiency and performance regarding cash management of NTC. This study tries to make comparison and to establish relationship between two or more variables. So it could be termed as analytical and descriptive study. So as to facilitate the assessment, researcher collected five years data of NTC and have tabulated and different financial accounting tools are used to analyze and to find out needed result.

## 3.3 Population and Sample

The present public enterprises are the population of the study and NTC is selected as sample for the evaluation. Similarly financial statements of five years data are covered as samples for the purpose of the study.

## 3.4 Nature and Sources of Data

The data used in this study are secondary as they were collected from concerned authorities. For any research work, information is considered as lifeblood. Thus it is the major task to gather the information and data. To fulfill the objectives of the study secondary data have been used. Secondary data have been taken mainly from the following sources:

- Published and unpublished documents and annual reports of the company.
- Journals, government and non-government publication.
- Other supportive books from central library of Tribhuvan University, Kirtipur, Library of Shanker Dev Campus, NTC library and websites on related topic.

## 3.5 Tools and Techniques used to analyze the Data

### 3.5.1 Financial Tools

Financial tools are those instrument and technique, which help in analysis of financial position of the enterprise. Various financial tools have been used in the study, which help to indicate the position of the company.

### 1. Ratio Analysis

Ratio Analysis is widely used tool of financial analysis. It is an expression of the quantitative relationship between two numbers. It reveals the relationship in more meaningful way so as to enable one to draw conclusion for it.

### a) Cash Position Analysis

Business needs cash for meeting its daily operating expenses and other cash obligations. Therefore cash position should be looked into separately to highlight this crucial business operation. Cash and cash equivalent include cash in hand, cash in transit ( bank transfer and cheques in collection which are

collected in the subsequent period) and deposits with banks in the various forms of deposit accounts which may or may not bear interest, but which are not of nature of investment.

Current liabilities consist of account payable, current position of long term loan, other provision, pension fund, subscriber/ contractor deposit etc.

Total assets include net fixed assets, investments, and current assets except deferred charges.

The ratios which determine the cash position are:

$$\text{Absolute Cash Ratio} = \frac{\text{Cash} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

$$\text{Cash to Total Assets Ratio} = \frac{\text{Cash} + \text{Marketable Securities}}{\text{Total Assets}}$$

$$\text{Interval Measures} = \frac{\text{Cash} + \text{Marketable Securities}}{\text{Average Daily Cash Operating Expenses}}$$

Absolute cash ratio indicates the position of cash for meeting current liabilities. Cash to total assets ratio indicates cash contented in the total investment. Interval measure indicates the time period during which the available cash would be sufficient to meet operating expenses. However, while taking marketable securities it should be considered whether the same are disposable or not. Only disposable marketable securities should be added to cash for computing ratios. A higher ratio indicates better position.

**b) Analysis of Cash Turnover**

Cash turnover ratio explains how quickly the cash is received from the transactions or differently the speed with which cash move to an organization. It can obtain by using the following formula:

$$\text{Cash Turnover } = \frac{\text{Sales}}{\text{Cash in Hands/Bank}}$$

Position of this ratio should stay 1:1

**c) Account Receivable Turnover**

It gives a clear picture about the company's ability to convert debt into cash.

To find out this ratio, the following formula should consider

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

It indicates the number of time receivables is turned over during the year. It gives the general measure of the productivity of the receivable measurement. If the ratio is high the working capital becomes higher and if the ratio is low the working capital becomes lower.

**d) Analysis of Quick or Acid Test Ratio**

The main objective of this ratio is examining the liquidity position of the firm. It gives the clear way about current assets have been tied-up in inventory or not. Liquid/quick assets means those assets which are immediately convertible into cash without much loss. All current assets except prepaid expenses or advance and inventories are categorized as liquid assets.

$$\text{Quick Ratio } = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

**e) Analysis of Current Ratio**

The ratio of current assets to current liabilities is known as current ratio. It examines the position of the company as to its holding of current assets with respect of current liabilities. Highest ratio indicates satisfactory position and vice-versa. But too high ratio is the sign of improper management of cash. The standard position of the ratio is 2:1.

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

### f) Net Profit Margin Ratio

It is used to analyze the profitability position of a firm. Higher ratio indicates high profitability and vice-versa. It is calculated as:

$$\text{Net Profit Margin Ratio} = \frac{\text{Net Profit After Tax}}{\text{Sales}}$$

### 2. Average Collection Period

It indicates the number of days it takes on an average to collect account receivables. It is computed as to collect account receivables.

$$\text{Average Collection Period} = \frac{\text{Days in a year (360)}}{\text{Receivable Turnover}}$$

$$\text{Average Days of Five Years} = \frac{\text{Total Days of Five Years}}{\text{Five Years}}$$

### 3. Cash Flow Statement

Cash flow statement signifies the movement of cash in and out of a business concerned. Inflow of cash is known as source of cash and outflow of cash is called use of cash. This statement also depicts the factors for such inflow and outflow of cash. It analyses the reason for changes in balance of cash in hand and at bank as on during an accounting period. The main source of cash receipts and channels of payment are found out and shown in the statement. "The main purpose of preparing a statement is to have an at a glance idea about the main causes of movement of cash during a particular spam of time. A projected statement will help management to check out the detailed plans

40

regarding its working and operation in future" (Maheshwari and Mittal 2003:420).

### 3.5.2 Statistical Tools

Statistical tools, which are used for the quantitative analysis of the secondary data are as follows:

### a) Straight Line Trend

To find out the direction of changes and forecasting, trend analysis can be used.

Straight line trend $(Y) = a + bX$

Where,

$Y$ = Value of dependent variables

$a$ = y intercept (constant)

$b$ = Slope of the trend line

$X$ = Value of independent variable (time)

$$a = \frac{\Sigma y}{n} \qquad b = \frac{\Sigma xy}{\Sigma x^2}$$

Where,

$\Sigma y$ = Sum of the observation in series Y

$\Sigma xy$ = Sum of the observation in series X & Y

$\Sigma x^2$ = Sum of square of the observation in series X

### b) Correlation (r)

Correlation analysis is the statistical tools that we can use to describe the degree to which one variable is linearly related to another. It does not tell us anything about causes and effect relationship. Correlation analysis helps in determining the degree of relationship between two or more variable.

Karl person's coefficient of correlation is one of the most popular method to compute correlation among various methods. It measures the degree of association between the two variables suppose x and y given by,

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

Where,

r = Karl Person's coefficient of correlation between x and y

$u = X - \overline{X}$

$v = Y - \overline{Y}$

and,

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

$\overline{Y} = \frac{\Sigma y}{N}$

Where,

N = Time period/ No. of years

With Karl Person's coefficient of correlation, probable error (P.E) of the correlation coefficient is also computed. This P.E of the correlation coefficient is the basis for the interpretation of its value. It is used to measure the reliability and test of significance of correlation coefficient. It is given by:

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

Where,

P.E = Probable error of correlation coefficient

n = No. of pair of observations

r = Correlation Coefficient

When, r < P.E, the value of r is not statistically significant at all; i.e. there is no evidence of correlation.

When, r > 6 P.E, the value of r is significant, i.e. practically the correlation is certain.

But when, P.E < r < 6 P.E, the value of r is in conclusive as no statistically significant/insignificant correlation.

The upper and lower limits within which the correlation coefficient is expected to lie are given by,

r + P.E,    Upper Limit

r – P.E,    Lower Limit

When, r is on negative value, i.e. - $1.00 \leq r < 0$, in order to compare r with P.E which is always in positive value, r modulus or /r/ is calculated because /r/ is nothing but it is the positive value of r itself.

For instance, if r is calculated as r = -0.5 then,

/r/ = 0.5

**c) Standard Deviation (S.D)**

The standard deviation of series of value is defined as the square root of the mean of square deviation from the mean of the distribution. It measures scatter, spread or variation and provides idea of homogeneity and heterogeneity of the distribution. It may be found by finding the differences between each individual frequency and mean of the distribution squaring these differences individually adding the square deviation and dividing by N and, than extracting the square of the results. The fundamental formula for the standard deviation is as follows:

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

The S.D or the root mean square deviation is the square root of the mean of the square deviation from their mean of a set of values (Monga, 1988:128).

The standard deviation measures the absolute variability of distribution the greater the amount of dispersion or variability the greater the S.D, for the greater will be the magnitude of the deviation of the values from their means. A

small S.D means a high degree of uniformity of the observation as well homogeneity or series (Monga, 1988:129).

With S.D (σ), coefficient of variation (C.V) is also computed which is the relative measure based on S.D and is defined as the ratio of the S.D to the mean expressed in present.

Coefficient of variation (C.V) is given by:

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\ \%$$

Distribution with lower C.V is said to be less variable (more consistent or uniform) and the distribution with higher C.V is indicate of more variable (less consistent or less uniform).

# CHAPTER - IV

# PRESENTATION AND ANALYSIS OF DATA

Cash is an integral part of organization, so management of cash is important in enterprises, whether the organization is large or small, profit making or non-profit making. The basic objective of this study is to have a true insight into "Cash Management" of Nepal Telecom. For the accomplishment of these objectives, definite course of research methodology has been followed, which has been described in chapter three. Now in this chapter the effort has been made to assess and analysis the cash management to disclose the actual position of cash management in NTC.

## 4.1 Analysis of Cash Balance

The rational management of cash is to hold the cash in optimal level. Management of cash plays a significant role in current assets of NTC. The total cash includes cash in hand, cash at bank and cash in transit. The table below shows the cash position of NTC during the period under study.

**Table 4.1**

**Cash Balance of NTC for Period Under Study**

(Rs. in '000)

| Fiscal Year | Cash Balance | Increase(Decrease) % |
|-------------|--------------|----------------------|
| 2061/062 | 9574501 | - |
| 2062/063 | 12021625 | 25.56 % |
| 2063/064 | 14746338 | 22.66 % |
| 2064/065 | 16134517 | 9.41 % |
| 2065/066 | 18191058 | 12.75 % |

*Source: Annual Report of NTC*

The above table shows the cash balance and its increment/decrement condition in different fiscal year. The cash holding of the company shows increasing

46

trend every year. In fact this visualized that the company could make best position of cash. In 2062/063, cash balance is increased by 25.56 % as compared to cash cash balance of 2061/062 and in 2063/064 it is increased by 22.66 % which is less than as compared to cash increment of 2062/063. There is also less increment in the year 2064/065 as it is increased by only 9.41 %. But in the year 2065/066 the cash balance is increased by 12.75 % which is more than as compared to cash increment of the year 2064/065.

**Figure 4.1**

**Cash Balance**
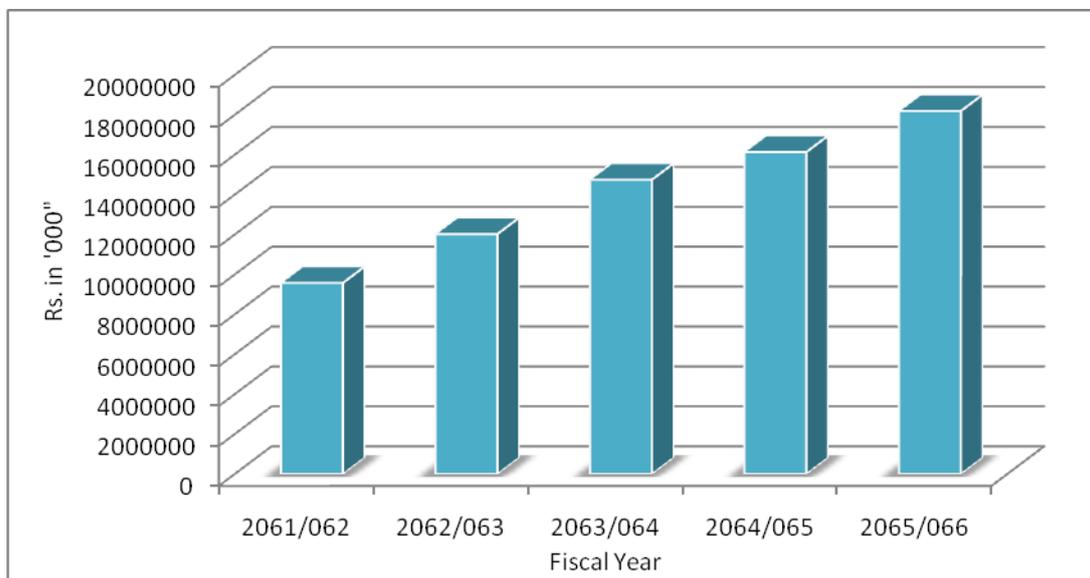


The figure 4.1 shows that the maximum cash balance is in the year 2065/066 that is Rs. 18191058 (in thousands) and the table no. 4.1 shows that in the year 2062/063 there is a maximum increase in percentage i.e. 25.56 %.

## 4.2 Cash Position Analysis

### 4.2.1 Absolute Cash Ratio

Among the techniques of measuring corporate liquidity the cash ratio is also used as index of cash management. The ratio indicates the amount of cash available to pay the current obligation of the corporation. Although high ratio indicates the sound position but too high and too low ratio is not good for the

47

company because idle and shortage of cash is harmful for the company. So, the moderate ratio is considered satisfactory.

$$\text{Absolute Cash Ratio} = \frac{Cash + Marketable\ Securities}{Current\ Liabilities}$$

**Table 4.2**

**Analysis of Absolute Cash Ratio**

(in Rs. '000)

| Fiscal Year | Cash | Current Liabilities | Absolute Cash Ratio (%) |
|---|---|---|---|
| 2061/062 | 9574501 | 14722678 | 65.03 |
| 2062/063 | 12021625 | 15665379 | 76.74 |
| 2063/064 | 14746338 | 15675153 | 94.07 |
| 2064/065 | 16134517 | 11518713 | 140.07 |
| 2065/066 | 18191058 | 12406063 | 146.63 |
| Average | - | - | 104.508 |

*Source:  Annual Report of NTC.*

The above table shows that the absolute cash ratio is in the increasing trend from the lowest of 65.03% to highest of 146.63% from the the study period 2061/062 to  2065/066. It indicates that the cash position of the company is very strong over the study period and company has sufficient cash to pay its current liabilities.. The average cash balance to current liabilities of the company is 104.508%, which is so high. It means there remain a huge portion of idle cash balance without any positive contribution towards the company. The above table clearly shows that the company has not been following a particular cash management in practice.

**Figure 4.2**

**Cash Balance and Current Liabilities**
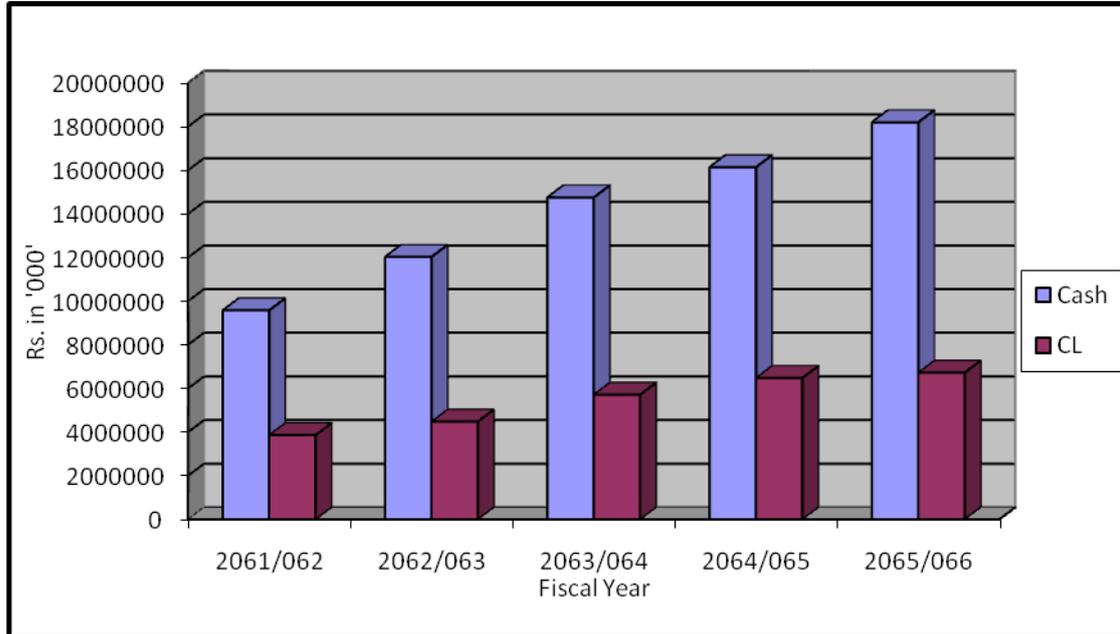


Above chart shows the graphical presentation between current liabilities and cash balance. In the figure it is seen that the current liabilities and cash balance both are in slightly increasing trend. The portion of cash balance and bank with comparision to current liabilities are very high.

**4.2.2 Cash to Current Assets Ratio**

It is also the supportive analysis of liquidity position. It measures the portion of cash and bank balance to current assets. Higher ratio indicatesthe sound liquidity position and vice-versa but too high and too low ratio is harmful for the company and indicates the problem of cash management. The stable pattern of ratio for different fiscal year indicates systematic management of the company.

**Table 4.3**

**Analysis of Cash to Current Assets Ratio**

( Rs. in '000)

| Fiscal Year | Cash | Current Assets | Cash to Current Assets(%) |
|---|---|---|---|
| 2061/062 | 9574501 | 20740543 | 46.16 |
| 2062/063 | 12021625 | 22662970 | 53.04 |
| 2063/064 | 14746338 | 23651569 | 62.35 |
| 2064/065 | 16134517 | 25000474 | 64.54 |
| 2065/066 | 18191058 | 28837295 | 63.08 |
| Average | - | - | 57.834 |

*Source: Annual Report of NTC*

The above table indicates that the cash and bank balance with respect to current assets of NTC has in fluctuating trend. During the study period it is the lowest 46.16% in the year 2061/062 and the highest 64.54% in the year 2064/065. In an average the projection of cash and bank balance to current assets for the study period is 57.834%. Although the high ratio is the sign of sound liquidity position but here the ratio in each fiscal year is more than 50% which is too high, it indicates that the cash remain idle in the corporation. It shows that the cash position is not sound in NTC.

**Figure 4.3**

**Cash Balance and Current Assets**
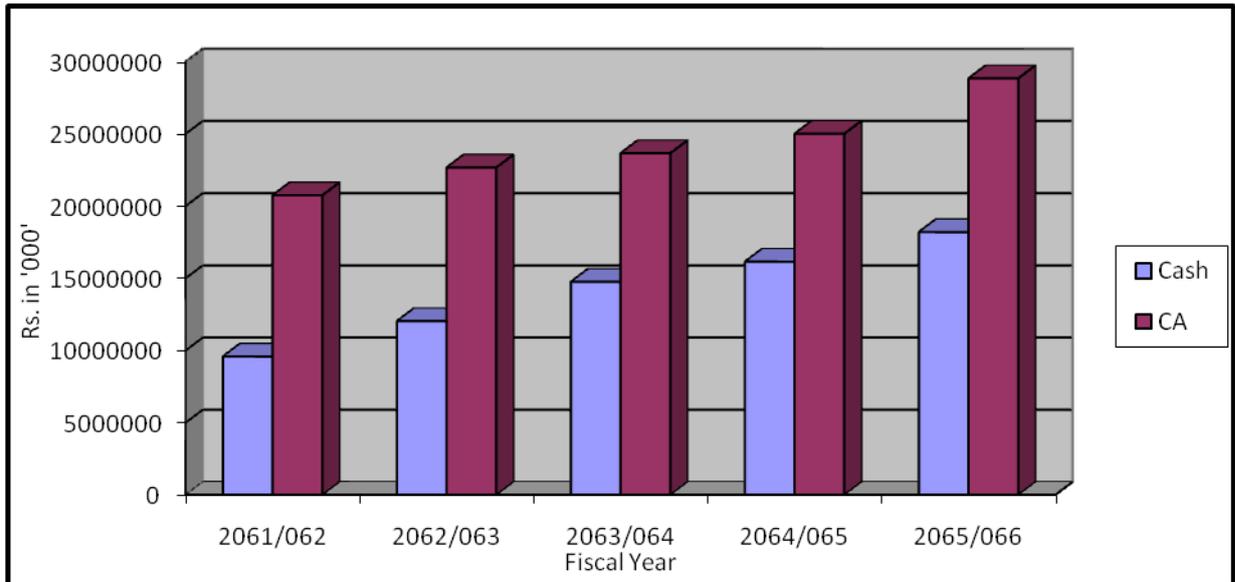
The above diagram shows the graphical relation between current assets and cash balance. In the figure it is seen that the current assets and cash both are in increasing trend over the five year study period. The figure clearly shows that the portion of cash balance with comparision to its current assets are very minimum.

### 4.2.3 Cash to Total Assets Ratio

The higher ratio indicates the lower risk and lower profitability whereas lower ratio indicates higher risk and higher profitability. It is calculated dividing cash and bank balance by total assets.

**Table 4.4**

**Analysis of Cash to Total Assets Ratio**

( Rs. in '000 )

| Fiscal Year | Cash | Total Assets | Cash to Total Assets(%) |
|:---:|:---:|:---:|:---:|
| 2061/062 | 9574501 | 35572772 | 26.91 % |
| 2062/063 | 12021625 | 39351406 | 30.55 % |
| 2063/064 | 14746338 | 43661115 | 33.77 % |
| 2064/065 | 16134517 | 50194187 | 32.14 % |
| 2065/066 | 18191058 | 58686689 | 30.99 % |
| Average | - | - | 30.872 % |

*Source: Annual Report of NTC*

The above table shows the percentage of cash and bank balance to total assets of NTC. The ratio represents the portion of cash to total assets investments of NTC during study period. About NTC, the percentage of cash/bank balance to total assets is in fluctuating trend. The ratio varies from minimum 26.91% to maximum 33.77% in the year 2061/062 and 2063/064. It has average ratio of 30.872%, which is very high. It means that the cash is kept idle without investing in appropriate sector. And it affects in the profitability of the company.

**Figure 4.4**

**Cash Balance and Total Assets**
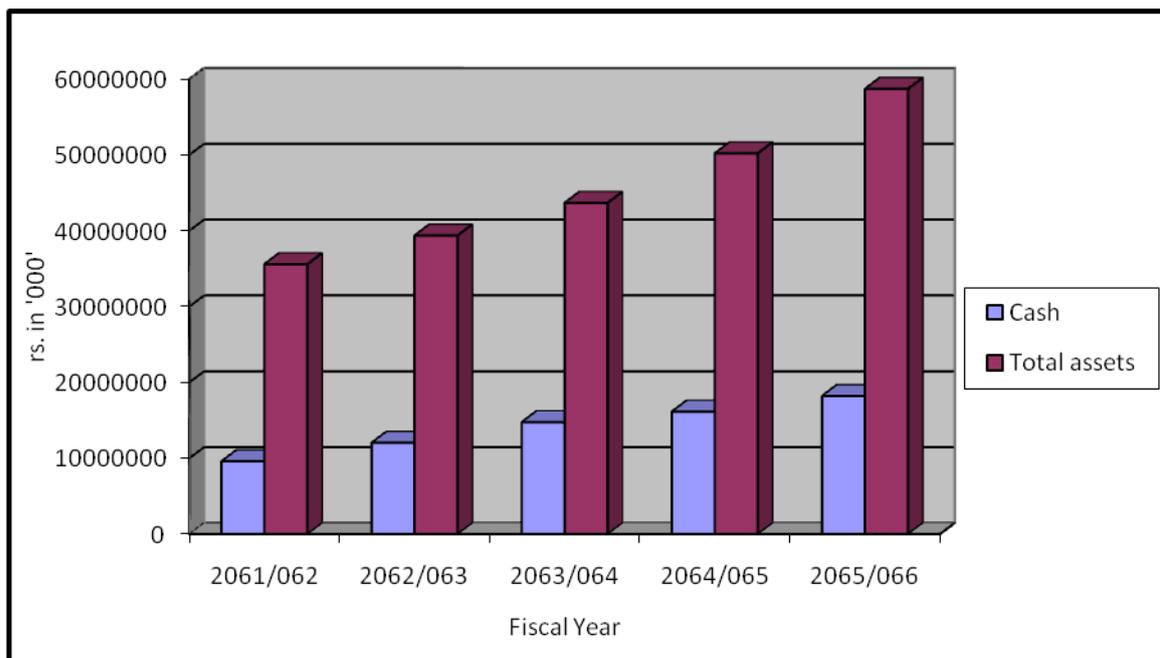


Above chart diagram shows the relation between cash/bank balance and total assets. In the above figure, it is seen that the total assets and cash balance both are in slightly increasing trend over the study period. The figure clearly shows that cash is the major component in the pie of total assets. It indicates that cash is kept idle without investing in appropriate sector.

## 4.2.4 Interval Measures

Interval measure indicates the time period during which the available cash would be sufficient to meet operating expenses. It determines the annual closing cash balance of the company. It is calculated by cash and bank balance divided by Average daily cash operating expenses.

**Table 4.5**

**Analysis of Interval Measures**

( Rs. in '000 )

| Fiscal Year | Cash | Annual Opearating Expenses | Daily Operating Expenses | Interval Measures (Days) |
|---|---|---|---|---|
| 2061/062 | 9574501 | 4272768 | 11868.80 | 807 |
| 2062/063 | 12021625 | 4215188 | 11708.85 | 1027 |
| 2063/064 | 14746338 | 6768302 | 18800.84 | 784 |
| 2064/065 | 16134517 | 7017854 | 19494.04 | 828 |
| 2065/066 | 18191058 | 8513592 | 23648.87 | 769 |
| Average | - | - | - | 843 |

*Source: Annual Report of NTC*

- The figures in days above have been rounded up.
- 360 days in a year.

**Figure 4.5**

**Cash Balance & Annual Operating Expenses**
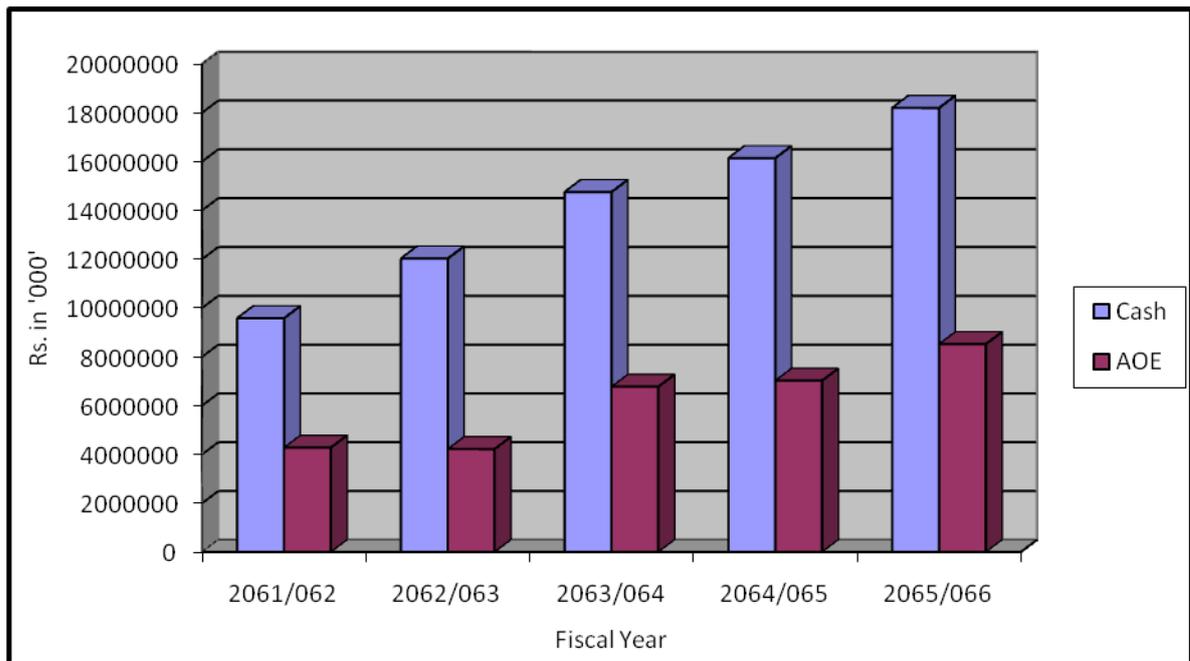
On the basis of above table and above figure, the company's annual closing cash balance (in Rs.'000) are Rs.9574501, Rs.12021625, Rs.14746338, Rs.16134517 and Rs.18191058 respectively in the year 2061/062, 2062/063, 2063/064, 2064/065 and 2065/066. Similarly the average daily operating expenses (in Rs.'000) are Rs.11868.80, Rs.11708.85, Rs.18800.84, Rs.19494.04 and Rs. 23648.87 in the respective fiscal year. The company's annual closing cash balance is found to be sufficient to meet the average daily operating expenses in 807, 1027, 784, 828 and 769 days in the fiscal year 2061/062, 2062/063, 2063/064, 2064/065 and 2065/066 respectively.

## 4.3 Analysis of Cash Turnover

Cash turnover ratio represents how quickly the cash is received from its sales. Higher turnover is the signal of sound liquidity and vice-versa. The following table shows the cash turnover during the study period of NTC.

$$\text{Cash Turnover} = \frac{\text{Sales}}{\text{Cash in Hands/Bank}}$$

**Table 4.6**

**Analysis of Cash Turnover**

( Rs. in '000 )

| Fiscal Year | Total Revenue (Sales) | Cash and Bank Balance | Cash Turnover in Times |
|---|---|---|---|
| 2061/062 | 8584144 | 9574501 | 0.89 |
| 2062/063 | 10413655 | 12021625 | 0.87 |
| 2063/064 | 13967319 | 14746338 | 0.95 |
| 2064/065 | 16624213 | 16134517 | 1.03 |
| 2065/066 | 20646629 | 18191058 | 1.13 |
| Average | - | - | 0.974 |

*Source: Annual Report of NTC*

The above table shows that the highest cash turnover ratio is 1.13 times in the fiscal year 2065/066 and the lowest turnover ratio is 0.87 in the fiscal year 2062/063. In addition, the turnover ratio is too low, it is less than 1 (time) in the fiscal year 2061/062, 2062/063 and 2063/064. It indicates that the company is unable to utilize its idle cash in generating sales. It means the corporation's position of liquid cash that remained idle is too high.

**Figure 4.6**

**Cash Balance and Total Revenue**
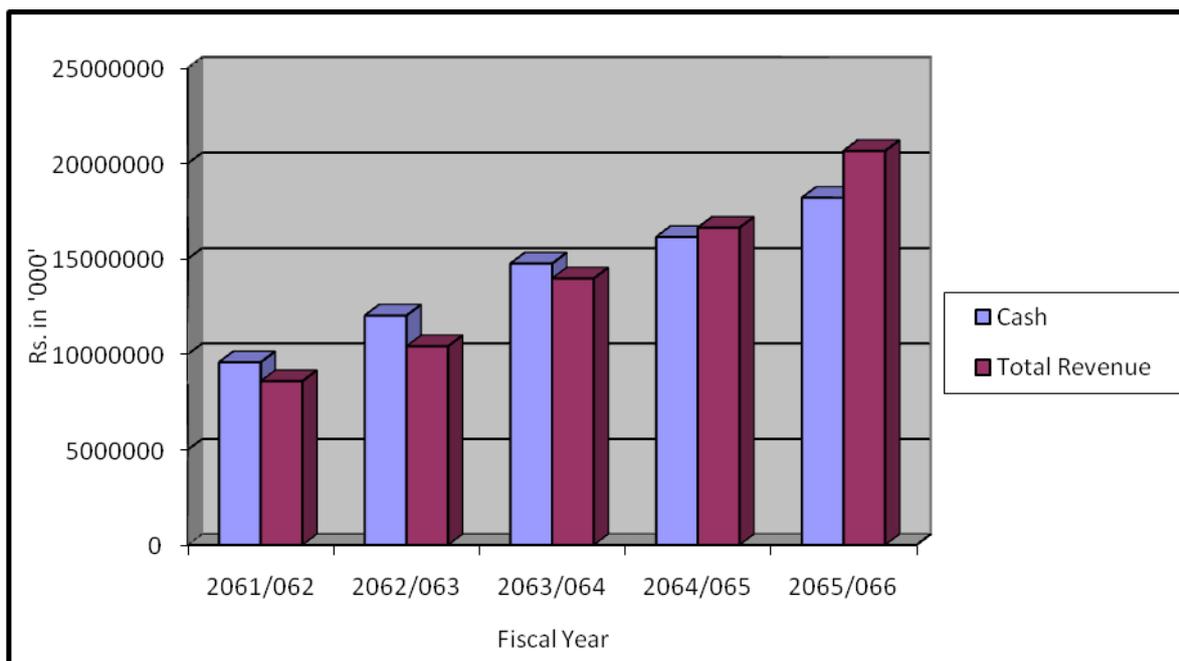
The above figure shows that the corporation's cash balances and sales revenue both are in increasing trend. Maximum cash balance and sales revenue is Rs. 18191058 (in thousands) and Rs. 20646629 (in thousands) respectively in the year 2065/066. Figure shows that in the year 2061/062, 2062/063 and 2063/064, sales revenue is less than cash balance whereas in the year 2064/065 and 2065/066, sales revenue is more than cash balance.

**Figure 4.7**

**Yearly Trend of Cash Turnover Ratio**
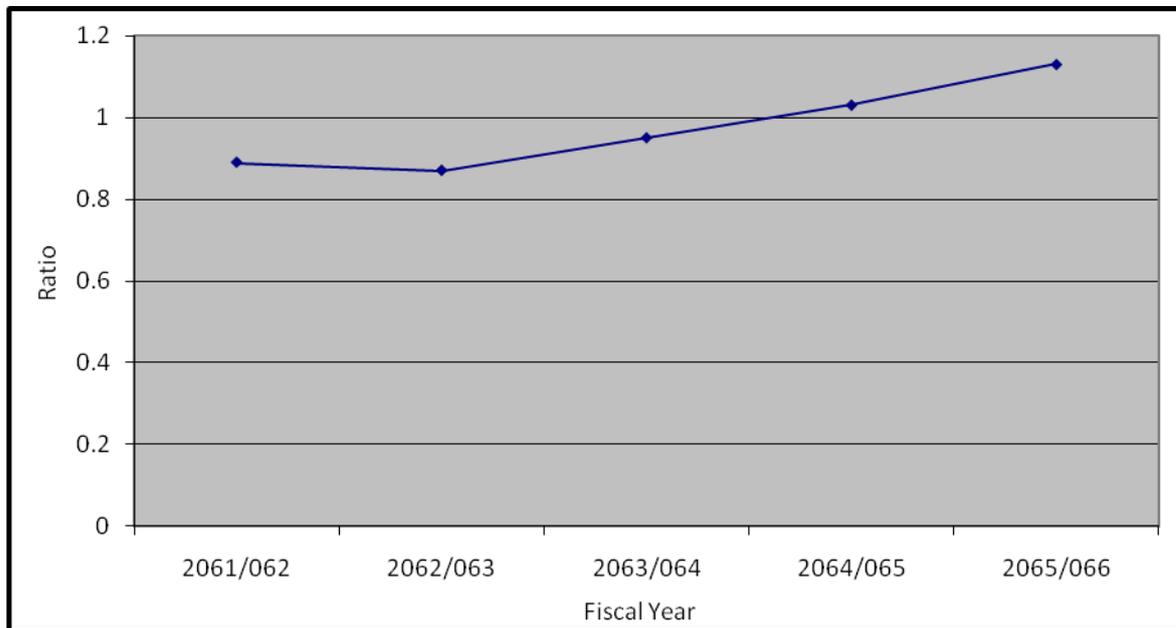


In above figure it shows that the cash turnover ratio is decreased in the year 2062/063. After that the figure shows the increasing trend of ratio, which is positive signal for the company. The maximum cash turnover ratio is 1.13 (times) in the year 2065/066.

## 4.4 Analysis of Account Receivable Turnover Ratio

The company sells its goods or services on credit and cash basis. When the company extend credit to its customers, book debts are credited. Debtors or account receivables are to be converted into cash over a short period and therefore are included in current assets. The liquidity position of the company depends on the quality of debtors to a great extend. Account receivable turnover is in relationship between credit sales and collection period. If turnover is high, there will be little congestion of fund in turnover and vice-versa. Receivable turnover ratio is calculated as follows:

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

**Table 4.7**

**Analysis of A/C Receivable Turnover Ratio**

(Rs. in '000)

| Fiscal Year | Sales | A/C Raceivables | Receivable turnover ratio (times) | Total Collection (%) |
|---|---|---|---|---|
| 2061/062 | 8584144 | 2825943 | 3.04 | 67.08 |
| 2062/063 | 10413655 | 3099496 | 3.36 | 70.24 |
| 2063/064 | 13967319 | 3455512 | 4.04 | 75.26 |
| 2064/065 | 16624213 | 3318464 | 5.01 | 80.04 |
| 2065/066 | 20646629 | 3593205 | 5.75 | 82.59 |
| Average | - | - | | 75.042% |

*Source: Annual Report of NTC*

Total Collection $(\%) = \dfrac{\text{Sales} - \text{Receivables}}{\text{Sales}} \times 100$

High turnover ratio imply prompt payment on the part of debtors. In the above table the maximum A/C receivable turnover ratio is 5.75 times in the year 2065/2066 and the minimum A/C receivable turnover ratio is 3.04 times in the year 2061/062, which shows that the management is concern to collect debt timely. It means the working capital of the corporation is high. The table also shows that the company's A/C receivable average collection is 75.042%, which is quite satisfactory situation for the company.

**Figure 4.8**

**Presentation of Sales and A/C Receivable**
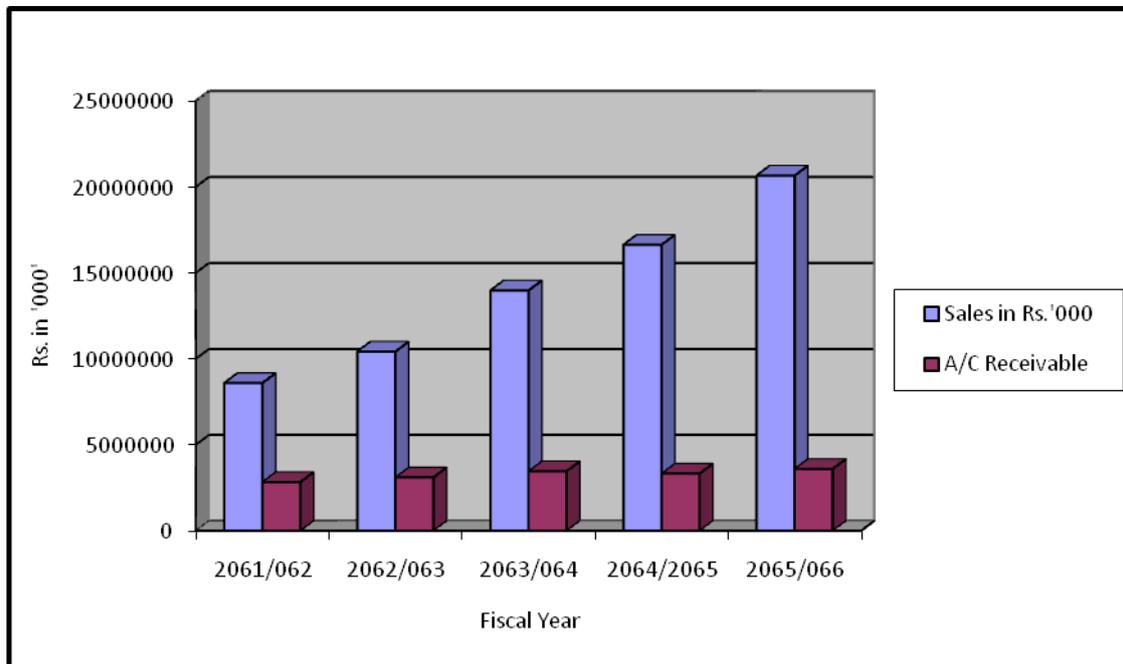


Above table shows that the amount of A/C receivable is very low in comparision with sales of the company.

## 4.5 Average Collection Period

Average collection period indicates the no. of days debtor turn over into cash. It analyzes the determining collectibles of debtors. Shorter average collection periods refers to proper management of credit and vice-versa.

"An excessively long collection period implies a true liberal and inefficient credit and collection performances" (Pandey, 1999:515).

The certainly delays the collection of cash empire the company debt paying ability. The changes of bad debts losses are also increased. On the other hand, too low a collection period is not necessarily favourable. It indicates a very restrictive credit and collection policy (Pandey,1999:516).

59

The average collection period is calculated as follows.

$$\text{Average Collection Period} = \frac{\text{Days in a year (360)}}{\text{Receivable Turnover}}$$

**Table 4.8**

**Analysis of Average Collection Period**

| Fiscal Year | Days in Year | Sales (in Rs. '000) | Receivables (in Rs.000) | Receivable Turnover (times) | Average collection Period(Days) |
|---|---|---|---|---|---|
| 2061/062 | 360 | 8584144 | 2825943 | 3.04 | 118 |
| 2062/063 | 360 | 10413655 | 3099496 | 3.36 | 107 |
| 2063/064 | 360 | 13967319 | 3455512 | 4.04 | 89 |
| 2064/065 | 360 | 16624213 | 3318464 | 5.01 | 72 |
| 2065/066 | 360 | 20646629 | 3593205 | 5.75 | 63 |
| Average |  |  |  |  | 90 |

*Source: Annual Report of NTC*

The calculation of receivable conversion period/Average collection period of NTC in the above table has shown decreasing trend within the study period. Which is positive signal for the company. The highest collection period is 118 days in the fiscal year 2061/062 and the lowest collection period is 63 days in the fiscal year 2065/066. It indicates the collection period is so large in all fiscal year. The larger collection period shows that the management is less concern to collect debt timely. It means the quality of the debtor is also not good.

**4.6 Analysis of Current Ratio**

It is the ratio of current assets to current liabilities. Generally current assets should be twice the current liabilities. If the ratio is higher than 2 times, it is very comfortable for creditors but it is the indicator of idle funds and if the

ratio is less than 2 times, difficulty may be experienced in the payment of current liabilities and day to day operations of the business may suffer.

**Table 4.9**

**Analysis of Current Ratio**

(Rs. in '000)

| Fiscal Year | Current Assets | Current | Current Ratio |
|---|---|---|---|
| 2061/062 | 20740543 | 14722678 | 1.41 |
| 2062/063 | 22662970 | 15665379 | 1.45 |
| 2063/064 | 23651569 | 15675153 | 1.51 |
| 2064/065 | 25000474 | 11518713 | 2.17 |
| 2065/066 | 28837295 | 12406063 | 2.32 |
| Average | - | - | 1.77 |

*Source: Annual Report of NTC*

The above table shows the increasing trend of current ratio over the study period. The calculated current ratio from fiscal year 2061/062 to 2063/064 is less than standard (i.e. less than 2:1) and current ratio from fiscal year 2064/065 to 2065/066 is more than standard (i.e. more than 2:1). The average ratio of the company is 1.77 times, which indicates that the current assets of the company over the study period is good enough to meet the current liabilities. And the major portion of current assets comprises of cash.

**Figure 4.9**

**Presentation of Current Assets and Current Liabilities**
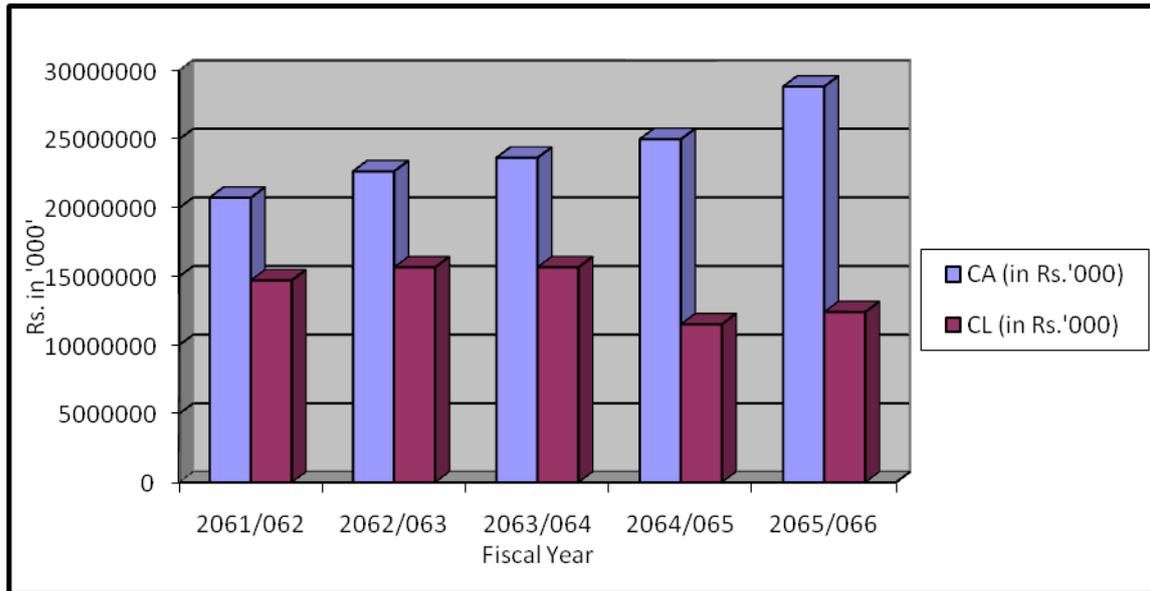
The above figure shows that the current liabilities are very low in comparision with current assets. It indicates that there remain idle funds in the company.

**4.7 Analysis of Acid Test Ratio**

It examines the liquidity position of an enterprise. It is called quick ratio because it measures the capacity of a company to convert its current assets quickly into cash in order to meet its current liabilities. The traditional form of this ratio is 1:1.

**Table 4.10**

**Analysis of Quick or Acid Test Ratio**

(Rs. in '000)

| Fiscal Year | Liquid Assets | Current Liabilities | Acid test ratio (times) |
|-------------|---------------|---------------------|-------------------------|
| 2061/062 | 12400444 | 14722678 | 0.84 |
| 2062/063 | 15121120 | 15665379 | 0.96 |
| 2063/064 | 18201849 | 15675153 | 1.16 |
| 2064/065 | 19452981 | 11518713 | 1.69 |
| 2065/066 | 21784263 | 12406063 | 1.75 |
| Average | - | - | 1.28 |

*Source: Annual Report of NTC*

The above table shows that quick ratio in the year 2061/062 and 2062/063 is less than 1 time and in the year 2063/064, 2064/065 & 2065/066 it is more than

1 time. And the average quick ratio is 1.28 times, it means the liquidity position of the company is very strong. It is found more than sufficient. It is because of the huge portion of cash in the current assets.

## 4.8 Net Profit Margin Ratio

It is used to analyze the profitability position of a firm. It measures the relationship between net profit and sales of a firm. A high profit margin indicates adequate return to the firm and thus enables in with standing in adverse economic situations when sales price is declining, cost of production is rising and demand for the product is falling. A low profit margin shows just opposite.

**Table 4.11**

**Analysis of Net Profit Margin Ratio**

(Rs. in '000)

| Fiscal Year | NPAT | Sales Revenue | Net Profit Margin Ratio (%) |
|---|---|---|---|
| 2061/062 | 3542461 | 8584144 | 41.27 |
| 2062/063 | 4936647 | 10413655 | 47.41 |
| 2063/064 | 5652688 | 13967319 | 40.47 |
| 2064/065 | 7576991 | 16624213 | 45.58 |
| 2065/066 | 9991400 | 20646629 | 48.39 |
| Average | - | - | 44.625 |

*Source: Annual Report of NTC*

The above table shows that the net profit margin ratio of the company is more than 40% in each fiscal year. In an average it is 44.625%, which is quite satisfactory. The lowest net profit margin is in the year 2063/064 i.e. 40.47% and the highest net profit margin is in the year 2065/066 i.e. 48.39%.

## 4.9 Analysis of Cash Flow Statement

Cash flow statement of the company signifies the movements of cash in and out of company. Inflow of cash is known as source of cash and outflow is called use of cash. This statement also depicts the facts for such inflow and gets

flow of cash. It virtually takes the nature and character of cash receipts and cash payments, through the basic information used in the preperation of this statement differs from that which is used in recording cash receipts and cash payment in cash inflow and outflow are explained and shown in cash flow statement before highlighting its nature and utility.

## Table 4.12

## Cash Flow Statement

| | 2061/062 | 2062/063 | 2063/064 | 2064/065 | 2065/066 |
|---|---|---|---|---|---|
| **Cash Flow from operating activities** | | | | | |
| Net Profit before tax | 4921528 | 6843727 | 7983321 | 10871456 | 13633989 |
| Adjustment | | | | | |
| Depreciation | 1050486 | 1196136 | 1366504 | 1486129 | 1681293 |
| Interest on Loan | 696 | 1108 | - | 10303 | - |
| Income from Investment | (463827) | (596838) | (701827) | (903773) | (1375736) |
| Deffered Expenses | 40818 | 40029 | 58374 | 71161 | 41079 |
| Provision for liabilities | 618555 | 629411 | 842219 | 1183534 | 2250589 |
| New addition for licensee | - | - | - | - | (189000) |
| Foreign Exchange Gain/loss | 251124 | (280005) | 526031 | - | - |
| Fixed Assets written off | 1224 | - | - | - | - |
| Expenses on lost of goods | - | 8530 | 122922 | - | - |
| Expences for Royalty | 491301 | 591807 | 811462 | - | - |
| Expenses on optical inventory | - | - | 37269 | - | - |
| Expenses for doubtful debts | - | - | 200365 | - | - |
| Payment of interest | 473 | (2335) | - | - | - |
| Payment of Royalty | (450000) | (370641) | (563687) | - | - |
| Payment of bonus & intensive | (384038) | (301638) | (248788) | (352364) | (839893) |
| Payment of pension gratuits | (23611) | (30048) | (35997) | (47309) | (64368) |
| Payment of earned leave | (21017) | (22011) | (21694) | (28156) | (38643) |
| Increase/Decrease in working capital | 1206217 | 984878 | 2324152 | 2491821 | 4382459 |

| | | | | | |
|---|---|---|---|---|---|
| **Net Cash flow from operating Activities** | **4827495** | **6722354** | **8052322** | **9799160** | **10716851** |

| | 2061/062 | 2062/063 | 2063/064 | 2064/065 | 2065/066 |
|---|---|---|---|---|---|
| **Cash flow from investing activities** | | | | | |
| Purchase of fixed assets | (1997746) | (2243645) | (1667712) | (3047176) | (4150841) |
| Income from investments | 463827 | 596838 | 701827 | 903773 | 1375736 |
| Increase in investments | 55824 | (818214) | (726907) | (3486326) | (2794063) |
| Increase in deffered Expenses | (42097) | (34287) | (190177) | - | - |
| Adjustment of amortization premium | - | - | - | (3128) | - |
| Increase/Decrease in capital WIP | (1075339) | 15787 | (1443449) | (76639) | 613804 |
| **Net Cash Flow From Investing Activities (B)** | **(2595531)** | **(2483521)** | **(3326418)** | **(5709496)** | **(4955364)** |

| | 2061/062 | 2062/063 | 2063/064 | 2064/065 | 2065/066 |
|---|---|---|---|---|---|
| **Cash flow from financing activities** | | | | | |
| Payment of interest | - | - | - | (10304) | - |
| Payment of long term loan | (11249) | (24238) | - | (1191680) | - |
| Payment of dividend | (300000) | (433510) | (1475161) | (1499500) | (3704945) |
| Receipt in long term debt | 24238 | - | - | - | - |
| Payment of retained earning | (2900000) | (1611651) | - | - | - |
| Capital reserve adjusted to retained earning | - | (2318) | - | - | - |
| **Net cash flow from financing activities (C)** | **(3187011)** | **(2071717)** | **(1475161)** | **(2701484)** | **(3704945)** |

| | 2061/062 | 2062/063 | 2063/064 | 2064/065 | 2065/066 |
|---|---|---|---|---|---|
| Net increase in Cash (A+B+C) | (955047) | 2167116 | 3250743 | 1388180 | 2056542 |
| Cash at begining | 10780670 | 9574501 | 12021625 | 14746337 | 16134516 |
| Foreign exchange | (251124) | 280005 | (526031) | - | - |

| gain/loss | | | | | |
|---|---|---|---|---|---|
| **Cash at the end** | **9574499** | **12021622** | **14746337** | **16134517** | **18191058** |

*Source: Annual Report of NTC*

From Fiscal year 2061/062 to 2065/066 cash flow from operating activities is increasing year by year. However cash inflow position from operating activities in the year 2061/62 is significantly lower in comparision to other years. The minimum cash inflow is Rs. 4827495 (in thousand) in the year 2061/062 and the maximum inflow is Rs. 10716851 (in thousand) in the year 2065/066. The table shows only positive cash flow from operating activities, which is good signal for the company.

The table shows that company invests its huge portion of fund to purchase fixed assets in each year. There is fluctuation in investing activities of the company. The highest outflow in investing activities is Rs. 5709496 (in thousand) in the year 2064/065 and the lowest outflow is Rs. 2483521 (in thousand) in the year 2062/063. The large amount in investing activities shows that company is extending its services and projects, which indicates that the company is in the growing stage.

Company has negative cash flow in financing activities from year 2061/062 to year 2065/066, that means it is paying its long term liabilities. company is paying back its loan and investing its fund simultaneously, which become possible because of retained earning. Table shows that the payment of dividend by the company is in increasing trend, which indicates that the company is in growing stage. Cash from operating activities is ploughed for the investment and loan payment, it shows strong financial position of company.

After the adjustment of operating, investing and financing items, we can conclude that NTC's financial position is strong. It shows the corporation is in profit but not in proper planning. If there is proper planning the company can achieve more profit.

## 4.10 Fitting the Straight Line Trend by Least Square Sheet for Variations in Cash Balance

This is the one of the time series analysis where future events of variables are forecasted over regular interval of time based on the past events of the variables. Here an effort has been made to forecast cash balance of NTC for the coming fiscal year.

To analyze the data by using least square method let us assume that the fiscal year be X and cash balance be Y. If we keep the fiscal year ranking from 1 to 5 then number of observation would be five. Similarly cash balance (Y) would be kept in million to make calculation.

So that straight line trend, $Y_c = a + bx$

Where, $a = \dfrac{\Sigma Y}{N}$

$b = \dfrac{\Sigma xY}{\Sigma x^2}$

$x = X - \bar{X}$

$\bar{X} = \dfrac{\Sigma \bar{X}}{N}$

N = number of observation

**Table 4.13**

**Least Square Spreadsheet between Fiscal Years and Cash Balance**

(Rs. in '000000)

| Fiscal Year | X | Cash Balance (Y) | x = (X-$\bar{X}$) | $x^2$ | xY |
|---|---|---|---|---|---|
| 2061/062 | 1 | 9574 | -2 | 4 | -19148 |
| 2062/063 | 2 | 12021 | -1 | 1 | -12021 |
| 2063/064 | 3 | 14746 | 0 | 0 | 0 |
| 2064/065 | 4 | 16134 | 1 | 1 | 16134 |
| 2065/066 | 5 | 18191 | 2 | 4 | 36382 |

69

| | | | | | |
|---|---|---|---|---|---|
| Total | ΣX = 15 | ΣY = 70666 | Σx = 0 | Σx² = 10 | ΣxY = 21347 |

*Source: Annual Report of NTC*

Here,

$$\overline{X} = \frac{\Sigma X}{N} = \frac{15}{5} = 3$$

$$a = \frac{\Sigma Y}{N} = \frac{70666}{5} = 14133.2$$

$$b = \frac{\Sigma xY}{\Sigma x^2} = \frac{21347}{10} = 2134.70$$

Hence, the equation of the straight line trend is given by,

$$Y_c = a + bx$$

$$Y_c = 14133.2 + 2134.70x$$

The trend line shows the positive figure of cash balance for future. The annual rate of increment of cash balance is seemed to be 2134.70 × Rs.1000000 = Rs.2134700000.

To predict the future cash balance, fitting the above calculated cash trend line in the following future four year, by taking fiscal year 2061/062 as a base year.

**Table 4.14**

**Future Trend Line of Cash**

(Rs. in '000000)

| Fiscal Year | x | Trend line | Cash Balance |
|---|---|---|---|
| 2066/067 | 2066/067-2061/062 = 5 | $Y_c = 14133.2 + 2134.70 \times 5$ | 24806.7 |
| 2067/068 | 2067/068-2061/062 = 6 | $Y_c = 14133.2 + 2134.70 \times 6$ | 26941.4 |
| 2068/069 | 2068/069-2061/062 = 7 | $Y_c = 14133.2 + 2134.70 \times 7$ | 29076.1 |
| 2069/070 | 2069/070-2061/062 = 8 | $Y_c = 14133.2 + 2134.70 \times 8$ | 31210.8 |

Above table shows that the cash generated trend is in increasing slope, which implies in future cash will be more than present.

**Figure 4.10**
**Future Trend of Cash Balance**
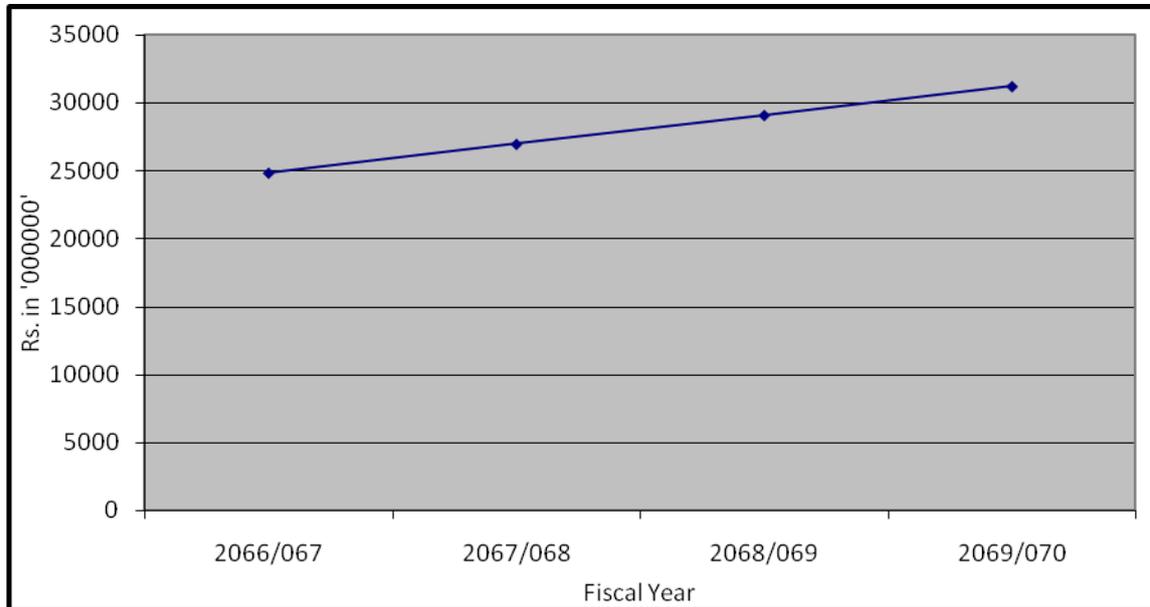


The trend line shows that cash will in increasing trend in future.

## 4.11 Correlation between Cash Balance and Actual Sales

To find out the correlation between sales and cash balance Karl Person's cofficient of correlation (r) is determined. For this purpose actual sales (X) are assumed to be dependant variables and cash balance (Y) are assumed to be independent variable. It is assumed that actual sales will increase as cash balance will increase or vice-versa. It means there should be positive correlation between cash balance and actual sales.

Significance of correlation (r) is tested with probable error of 'r'.

**Table 4.15**
**Correlation between Cash Balance and Actual Sales**

(Rs. in '000000)

| Fiscal Year | Sales (X) | Cash (Y) | $u = X - \bar{X}$ | $v = Y - \bar{Y}$ |
|---|---|---|---|---|
| 2061/062 | 8584 | 9574 | -5462.8 | -4559.2 |
| 2062/063 | 10413 | 12021 | -3633.8 | -2112.2 |
| 2063/064 | 13967 | 14746 | -79.8 | 612.8 |

71

| | | | | |
|---|---|---|---|---|
| 2064/065 | 16624 | 16134 | 2577.2 | 2000.8 |
| 2065/066 | 20646 | 18191 | 6599.2 | 4057.8 |
| Total | $\Sigma X = 70234$ | $\Sigma Y = 70666$ | $\Sigma u = 0$ | $\Sigma v = 0$ |

*Source: Annual Report of NTC*

| Fiscal Year | $u^2$ | $v^2$ | uv |
|---|---|---|---|
| 2061/062 | 29842183.84 | 20786304.64 | 24905997.76 |
| 2062/063 | 13204502.44 | 4461388.84 | 7675312.36 |
| 2063/064 | 6368.04 | 375523.84 | -48901.44 |
| 2064/065 | 6641959.84 | 4003200.64 | 5156461.76 |
| 2065/066 | 43549440.64 | 16465740.84 | 26778233.76 |
| Total | $\Sigma u^2 = 93244454.8$ | $\Sigma v^2 = 46092158.8$ | $\Sigma uv = 64467104.2$ |

Here,

$$\overline{X} = \frac{\Sigma X}{N} = \frac{70234}{5} = 14046.8$$

$$\overline{Y} = \frac{\Sigma Y}{N} = \frac{70666}{5} = 14133.2$$

Now,

$$r_{xy} = \frac{\Sigma uv}{\sqrt{\Sigma u^2 \times \Sigma v^2}} = \frac{64467104.2}{\sqrt{93244454.8 \times 46092158.8}} = 0.983$$

The value of $r_{xy} = 0.983$ shows that there is positive correlation between cash and actual sales.

Again,

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

$$= 0.6745 \frac{(1 - 0.983^2)}{\sqrt{5}}$$

$$= \frac{0.6745 \times 0.034}{2.236}$$

$$= 0.010$$

Since $r_{xy} > P.E (r)$, the value of r is significant, i.e. there is evidence of correlation.

Higher and lower limit of correlation coefficient is,

r + P.E = 0.983 + 0.010 = 0.993,    Upper Limit

r – P.E = 0.983 - 010 = 0.973'   Lower Limit

Thus the coefficient of correlation is expected to lie between 0.973 to 0.993.

**Standard Deviation of Actual Sales X**

$$\sigma_x = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N}} \text{ i.e. } \sqrt{\frac{\Sigma u^2}{N}}$$

$$= \sqrt{\frac{93244454.8}{5}}$$

$$= 4318.44$$

**Similarly, Standard Deviation of Cash Balance Y,**

$$\sigma_x = \sqrt{\frac{\Sigma(Y-\bar{Y})^2}{N}} \text{ i.e. } \sqrt{\frac{\Sigma v^2}{N}}$$

$$= \sqrt{\frac{46092158.8}{5}}$$

$$= 3036.19$$

**4.12 Fitting the Straight Line Trend by Least Square for Sales & Receivable**

Time element is also important factor because with the passage of time sales achievements account receivable changes, which can be expressed by the component of time series. A straight line trend by the method of least square will show the relationship between years (time) and ratio in time of account receivables and sales.

So that straight line trend, $Y_c = a + bx$

Where, $a = \dfrac{\Sigma Y}{N}$

$b = \dfrac{\Sigma xY}{\Sigma x^2}$

$x = X - \bar{X}$

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

X = Time period

Y = Time ratio of A/C receivable and sales

N = No. of observation

**Table 4.16**

**Fitting the straigh line trend by least square between years and**

**Ratio in time of A/C Receivable**

| Fiscal Year | X | Ratio in time (Y) | x = (X-$\bar{X}$) | $x^2$ | xY |
|---|---|---|---|---|---|
| 2061/062 | 1 | 3.04 | -2 | 4 | -6.08 |
| 2062/063 | 2 | 3.36 | -1 | 1 | -3.36 |
| 2063/064 | 3 | 4.04 | 0 | 0 | 0 |
| 2064/065 | 4 | 5.01 | 1 | 1 | 5.01 |
| 2065/066 | 5 | 5.75 | 2 | 4 | 11.5 |
| Total | $\Sigma X = 15$ | $\Sigma Y = 21.2$ | $\Sigma x = 0$ | $\Sigma x^2 = 10$ | $\Sigma xY = 7.07$ |

*Source: Annual Report of NTC*

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{15}{5} = 3$$

$$a = \frac{\Sigma Y}{N} = \frac{21.2}{5} = 4.24$$

$$b = \frac{\Sigma xY}{\Sigma x^2} = \frac{7.07}{10} = 0.707$$

Hence, the equation of the straight line trend is given by,

$Y_c = a + bx$

$Y_c = 4.24 + 0.707x$

The trend line shows that sales are directly affected by A/C receivable in future.

To predict the future trend for sales and receivable, fitting the above calculated A/C receivable ratio trend  in the following table for future four year, by taking fiscal year 2061/062 as a base year.

Table 4.17

**Table 4.17**

**Future Trend Line for A/C Receivable Ratio**

| Fiscal Year | x | Trend Line | Cash Balance |
|---|---|---|---|
| 2066/067 | 2066/067-2061/062 = 5 | $Y_c = 4.24 + 0.707 \times 5$ | 7.775 |
| 2067/068 | 2067/068-2061/062 = 6 | $Y_c = 4.24 + 0.707 \times 6$ | 8.482 |
| 2068/069 | 2068/069-2061/062 = 7 | $Y_c = 4.24 + 0.707 \times 7$ | 9.189 |
| 2069/070 | 2069/070-2061/062 = 8 | $Y_c = 4.24 + 0.707 \times 8$ | 9.896 |

Above date presentation indicates that sales and receivables both are in increasing trend for future simultaneously.

**Figure 4.11**

**Future trend line for Receivable Turnover Ratio**
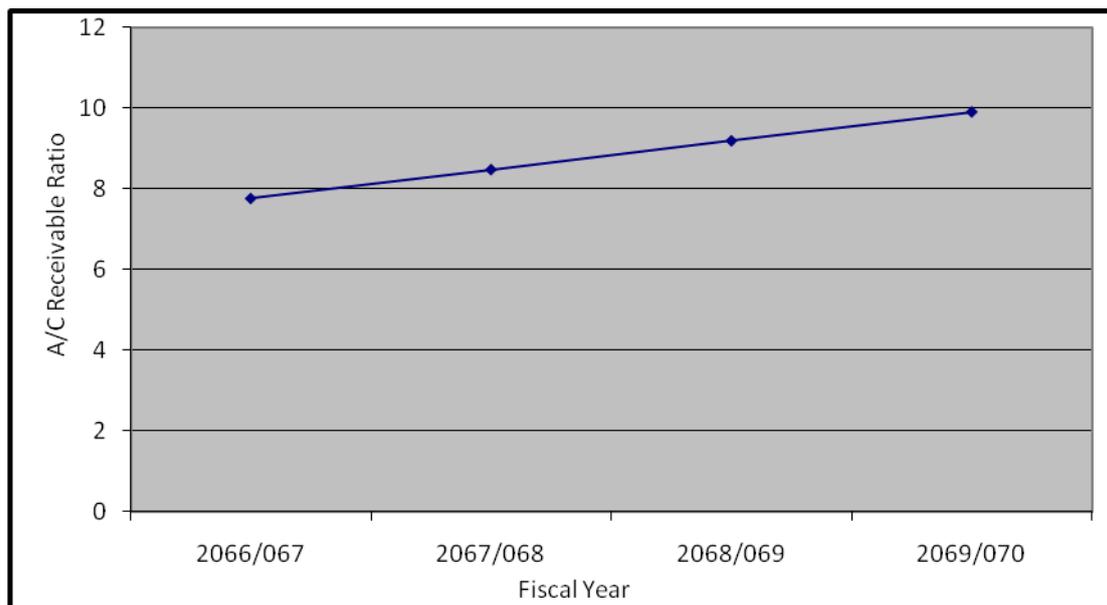


The above figure shows the increasing trend of receivable turnover ratio (in time).

**4.13 Corelation Coefficient between Receivables and Sales**

To find out the correlation between sales and receivables, Karl Person's cofficient of correlation (r) is determined. For this purpose sales and receivable

are assumed to be interrelated economic variable. It is assumed receivable (X) are dependant variables and Sales (Y) are independent variables. It is assumed that sales will increase as receivables increase or vice-versa. It means there should be positive correlation between sales and receivables. Significance of correlation (r) is tested with probable error of 'r'.

**Table 4.18**

**Correlation between A/C Receivable and Sales**

(Rs. in '000000)

| Fiscal Year | Receivables (X) | Sales (Y) | $u = X-\bar{X}$ | $v = Y-\bar{Y}$ |
|---|---|---|---|---|
| 2061/062 | 2825 | 8584 | -433 | -5462.8 |
| 2062/063 | 3099 | 10413 | -159 | -3633.8 |
| 2063/064 | 3455 | 13967 | 197 | -79.8 |
| 2064/065 | 3318 | 16624 | 60 | 2577.2 |
| 2065/066 | 3593 | 20646 | 355 | 6599.2 |
| Total | $\Sigma X = 16290$ | $\Sigma Y = 70234$ | $\Sigma u = 0$ | $\Sigma v = 0$ |

*Source: Annual Report of NTC*

| Fiscal Year | $u^2$ | $v^2$ | uv |
|---|---|---|---|
| 2061/062 | 187489 | 29842183.84 | 2365392.4 |
| 2062/063 | 25281 | 13204502.44 | 577774.2 |
| 2063/064 | 38809 | 6368.04 | -15720.6 |
| 2064/065 | 3600 | 6641959.84 | 154632 |
| 2065/066 | 112225 | 43549440.64 | 2210732 |
| Total | $\Sigma u^2 = 367404$ | $\Sigma v^2 = 93244454.8$ | $\Sigma uv = 5292810$ |

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{16290}{5} = 3258$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{70234}{5} = 14046.8$$

Now,

$$r_{xy} = \frac{\Sigma uv}{\sqrt{\Sigma u^2 \times \Sigma v^2}} = \frac{5292810}{\sqrt{367404 \times 93244454.8}} = 0.904$$

The value of $r_{xy} = 0.904$ shows that there is highly positive correlation between A/C Receivables and Sales.

Again,

The probable error of 'r'

$$P.E = 0.6745 \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \frac{(1-0.9042^2)}{\sqrt{5}} = 0.055$$

Also, $6 \times$ P.E. 'r' $= 6 \times 0.055 = 0.33$

Since $r_{xy} > 6P.E (r)$, the value of r is highly significant, i.e. there is evidence of correlation. It means if sales will increase, receivable will also increase or vice-versa.

Higher and lower limit of correlation coefficient is,

r + P.E = 0.904 + 0.055 = 0.959,   Upper Limit

r − P.E = 0.904 − 0.055 = 0.849,   Lower Limit

Thus the coefficient of correlation is expected to lie between 0.849 to 0.959.

**Standard Deviation of A/C Receivable  X,**

$$\sigma_x = \sqrt{\frac{\Sigma(x-\bar{x})^2}{N}} \text{ i.e. } \sqrt{\frac{\Sigma u^2}{N}}$$

$$\sigma_x = \sqrt{\frac{367404}{5}}$$

$$= 271.07$$

**Similarly, Standard deviation of Sales Y,**

$$\sigma_y = \sqrt{\frac{\Sigma(Y-\bar{Y})^2}{N}} \text{ i.e. } \sqrt{\frac{\Sigma v^2}{N}}$$

$$\sigma_y = \sqrt{\frac{93244454.8}{5}} = 4318.44$$

## 4.14 Correlation Coefficient between Current Liabilities and Cash

To find out the correlation between Cash balance and Current liabilities Karl Person's cofficient of correlation (r) is determined. For this purpose Current Liabilities (X) are assumed to be dependant variables and Cash balance (Y) are assumed to be independent variable. It is assumed that current liabilities will increase as cash balance will increase or vice-versa. It means there should be positive correlation between cash balance and current liabilities.

**Table 4.19**

**Correlation between Current Liabilities and Cash Balance**

(Rs. in '000000)

| Fiscal Year | Current Liabilities (X) | Cash (Y) | u = X-$\bar{X}$ | v = Y-$\bar{Y}$ |
|---|---|---|---|---|
| 2061/062 | 14722 | 9574 | 724.8 | -4559.2 |
| 2062/063 | 15665 | 12021 | 1667.8 | -2112.2 |
| 2063/064 | 15675 | 14746 | 1677.8 | 612.8 |
| 2064/065 | 11518 | 16134 | -2479.2 | 2000.8 |
| 2065/066 | 12406 | 18191 | -1591.2 | 4057.8 |
| Total | ΣX = 69986 | ΣY = 70666 | Σu = 0 | Σv = 0 |

*Source: Annual Report of NTC*

| Fiscal Year | u² | v² | uv |
|---|---|---|---|
| 2061/062 | 525335.04 | 20786304.64 | -3304508.2 |
| 2062/063 | 2781556.8 | 4461388.84 | -3522727.2 |
| 2063/064 | 2815012.8 | 375523.84 | 1028155.8 |
| 2064/065 | 6146432.6 | 4003200.64 | -4960383.4 |
| 2065/066 | 2531917.4 | 16465740.84 | -6456771.4 |
| Total | Σu² = 14800255 | Σv² = 46092158.8 | Σuv = -17216234 |

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{69986}{5} = 13997.2$$

79

$$\overline{Y} = \frac{\Sigma Y}{N} = \frac{70666}{5} = 14133.2$$

$$\overline{Y} = \frac{\Sigma Y}{N} = \frac{70666}{5} = 14133.2$$

Now,

$$r_{xy} = \frac{\Sigma uv}{\sqrt{\Sigma u^2 \times \Sigma v^2}} = \frac{-17216234}{\sqrt{14800255 \times 46092158.8}} = -0.659$$

Since, the coefficient of correlation (r) is negative, it indicates that there exists negative correlation between cash and current liabilities.

Here, correlation (r) is negative, in order to compare it with probable error (P.E), /r/ has been calculated as follows:

/r/ = /0.659/ = 0.659

Again,

The probable error of 'r'

$$P.E = 0.6745 \; \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \; \frac{(1-0.659^2)}{\sqrt{5}} = 0.170$$

Since, /r/ = 0.659, which is higher than P.E. = 0.170, i.e. /r/ > P.E., it indicates that when cash balance held increase, the current liabilities decrease and vice versa.

Upper and lower limit of correlation coefficient is,

r + P.E = - 0.659 + 0.170 = - 0.489,    Upper Limit

r – P.E = - 0.659 – 0.170  = - 0.829 '   Lower Limit

Thus the coefficient of correlation is expected to lie between – 0.489 to – 0.829.

**Standard Deviation of Current Liabilities X,**

$$\sigma_x = \sqrt{\frac{\Sigma(x-\bar{x})^2}{N}} \; \text{i.e.} \; \sqrt{\frac{\Sigma u^2}{N}} = \sqrt{\frac{14800255}{5}} = 1720.48$$

**Similarly, Standard Deviation of Cash balance Y,**

$$\sigma_y = \sqrt{\frac{\Sigma(Y-\bar{Y})^2}{N}} \text{ i.e. } \sqrt{\frac{\Sigma v^2}{N}} = \sqrt{\frac{46092158.8}{5}} = 3036.187$$

## 4.15 Correlation Coefficient between A/C Receivable and Cash

To find out the correlation between A/C receivable and cash balance Karl Person's cofficient of correlation (r) is determined. For this purpose A/C Receivable (X) are assumed to be dependant variables and Cash balance (Y) are assumed to be independent variable. It is assumed that A/C receivable will increase as cash balance will increase or vice-versa.

**Table 4.20**

**Correlation between A/C Receivable and Cash Balance**

(Rs. in '000000)

| Fiscal Year | Receivable (X) | Cash (Y) | $u = X-\bar{X}$ | $v = Y-\bar{Y}$ |
|---|---|---|---|---|
| 2061/062 | 2825 | 9574 | -433 | -4559.2 |
| 2062/063 | 3099 | 12021 | -159 | -2112.2 |
| 2063/064 | 3455 | 14746 | 197 | 612.8 |
| 2064/065 | 3318 | 16134 | 60 | 2000.8 |
| 2065/066 | 3593 | 18191 | 335 | 4057.8 |
| Total | $\Sigma X = 16290$ | $\Sigma Y = 70666$ | $\Sigma u = 0$ | $\Sigma v = 0$ |

*Source: Annual Report of NTC*

| Fiscal Year | $u^2$ | $v^2$ | uv |
|---|---|---|---|
| 2061/062 | 187489 | 20786304.64 | 1974133.6 |
| 2062/063 | 25281 | 4461388.84 | 335839.8 |
| 2063/064 | 38809 | 375523.84 | 120721.6 |
| 2064/065 | 3600 | 4003200.64 | 120048 |
| 2065/066 | 112225 | 16465740.84 | 1359363 |
| Total | $\Sigma u^2 = 367404$ | $\Sigma v^2 = 46092158.8$ | $\Sigma uv = 3910106$ |

Here,

$$\bar{X} = \frac{\Sigma X}{N} = \frac{16290}{5} = 3258$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{70666}{5} = 14133.2$$

Now,

$$r_{xy} = \frac{\Sigma uv}{\sqrt{\Sigma u^2 \times \Sigma v^2}} = \frac{3910106}{\sqrt{367404 \times 46092158.8}} = 0.950$$

The value of $r_{xy} = 0.950$ shows that there is positive correlation between A/C receivable and Cash balance.

Again,

The probable error of 'r'

$$P.E = 0.6745 \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \frac{(1-0.950^2)}{\sqrt{5}} = 0.029$$

Since $r_{xy} > P.E$ (r), the value of r is significant, i.e. there is evidence of correlation.

Higher and lower limit of correlation coefficient is,

r + P.E = 0.950 + 0.029 = 0.979,    Upper Limit

r – P.E = 0.950 – 0.029 = 0.921,   Lower Limit

Thus the coefficient of correlation is expected to lie between 0.921 to 0.979.

**Standard Deviation of A/C Receivable X,**

$$\sigma_x = \sqrt{\frac{\Sigma(x-\bar{x})^2}{N}} \text{ i.e. } \sqrt{\frac{\Sigma u^2}{N}} = \sqrt{\frac{367404}{5}} = 271.07$$

**Similarly, Standard Deviation of Cash Balance Y,**

$$\sigma_y = \sqrt{\frac{\Sigma(Y-\bar{Y})^2}{N}} \text{ i.e. } \sqrt{\frac{\Sigma v^2}{N}} = \sqrt{\frac{46092158.8}{5}} = 3036.187$$

## 4.16 Major Findings of the Study

The major findings of the study as revealed in the analysis of NTC are briefly described below.

- The growth line of cash and bank balance shows the increasing trend for the study period. This visualized that the corporation could make best position of cash. A very high positive growth is apparent in the year 2062/063. But NTC does not have any particular policy to maintain optimum cash balance and the management do not take any straight policy to hold how much cash in the company.

- Straight line trend by least square of cash balance shows the positive figure of cash balance for future. It means the annual rate of increment of cash balance will occur.

- The absolute cash ratio for the five year study period is 104.508% on an average. It is found that the cash position of the company is very strong over the study period. The cash ratio is slightly in the increasing trend. In first three years current liabilities are more than cash balance and the last two year of study period cash is almost sufficient to pay its current liabilities. So, it shows that the cash is not managed properly in the company which may yield more return.

- Analysis of correlation coefficient between cash and current liabilities shows the negative correlation between cash and current liabilities. The value of correlation is statistically insignificant.

- From the analysis of cash to total assets ratio, it comes to know that cash is the major component in the pie of total assets. It shows that cash is kept idle without investing in appropriate sector. On an average the cash position in the total assets comprised of 30.872%, which affects the profitability of the company.

- Interval measures shows that the companys annual closing cash balance is sufficient to meet the average daily operating expenses. On an average

company has enough cash for 843 days to expense on daily operating needs.

- Cash turnover analysis shows that the company's cash turnover ratio is in slightly increasing trend. It has cash turnover less than one in the first three years of study period, whereas it has cash turnover greater than one in the last two years of the study period. From this analysis it indicates that cash turnover is poor in NTC and it shows improper cash collection efficiency. But increasing trend of cash turnover ratio idicates the positive signal for the company.

- Analysis of correlation coefficient between cash balance and sales is found positive relationship, which shows that there is significant relationship between cash balance and actual sales. It is assumed that actual sales will increase as cash balance will increase or vice-versa.

- We know that the shorter the average collection period, better the credit management and better liquidity of debtors, as shorter collection period imply prompt payment on the part of debtors. The corporation's average collection period is in decreasing trend over the study period, which is good signal for the company. But the highest average collection period is 118 days in the year 2061/062 and the lowest average collection period is 63 days in the year 2065/066, which indicates that the management is less concerned to collect debt timely. It means the quality of debtors is also not sound.

- The analysis of correlation coefficient between A/C receivable and sales shows the positive correlation between sales and A/C receivable. It also shows that if sales will increase, receivable will also increase or vice-versa. The straight line trend analysis shows that sales are directly affected by the receivable in future.

- Analysis of Quick ratio shows that company has not maintain particular liquid assets to its current liabilities. Industry standard quick assets ratio is 1:1 but and company maintain average quick ratio 1.28 times over the

study period. It means the quick assets found more than sufficient, it is because of huge portion of cash in the quick assets.

- In the other hand the situation of current assets to current liabilities are reverse to quick assets to current liabilities. The standard current ratio is 2:1 but the company maintain current ratio on an average 1.77 times over the study period, which is less than standard. It is the indicator of less investment in current assets.

- Analysis of net profit margin ratio shows that company maintains profit more than 40% in each fiscal year. It is quite satisfactory for the company.

- The analysis of cash flow statement shows only positive cash flow from operating activities. Cash flow from operating activities is increasing year by year, which is the good signal for the company. There is fluctuation trend in investing activities. The large amount in investing activities shows that company is extending its services and project. It indicates that the company is in the growing stage. The negative figure of financing activities indicates that the company is paying its long term loan and liabilities. The payment of dividend by the company is in increasing trend, which is the sign of growing stage of the company.

# CHAPTER - V
# SUMMARY, CONCLUSION AND RECOMMENDATION

## 5.1 Summary

The study focuses on cash management practices of Nepal Telecom. It is the leading and the largest telecommunication company in Nepal. It is also known as Nepal Doorsanchar Company Limited. It contributes significantly to the economic development of the country. As stated in the introduction chapter, the objective of the study are to examine the existing internal control policy of cash transaction of NTC, to study the liquidity position of the company and to identify the shortage and excess of cash in the company. To fulfill these objectives and other specific objectives as discribed in chapter one, appropriate research methodology has been applied.

Analysis of data is based on the deployment of various financial and statistical tools, as designed in the methodology chapter. They are financial ratios, cash flow statement, correlation and regression for the relevant year. This study is based on secondary data. The necessary data are derived from the annual report of NTC for the period of five years from 2061/062 to 2065/066. The data are presented in suitable form and well analyzed basis of available information.

## 5.2 Conclusion

Although the liquidity and cash position of the company is very strong, it can not be concludes that the cash management practices in NTC is satisfactory in general. Company has adopting various management tools and techniques like annual cash budget, annual actual cash flow statement, provision of financing and investment for cash management of the company. But it only plays formal role and fails to screen the weakness of the cash management. It does not apply

any corrective action although its own annual analysis indicates the actual weak situation of cash management in some sector.

Company is able to collect more cash from different sources than it targeted in the budget. It shows good position of actual cash collection of the company. On the other hand, company does not spend cash as it targeted. Due to these facts, there is enough surplus cash in hand every year. It is unable to cope up with the market demand which can fulfill through tracking the surplus cash in that profitable sector.

The study shows that company has high liquidity which adversely affects profitability of the company. Moreover, it fails to invest surplus cash in appropriate investment sector. Instead of investing surplus there is separate budget for investment which is compulsory in nature. Company has take external loan from foreign institution and other sector which is not required to borrow, it is able to meet its expenses of budget by its own sources. There are strict provisions regarding cash control practices. Strict and lengthy procedure of business activities hamper in decision making which may cause to suffer for not getting business opportunity.

In conclusion it can be said that cash management is an important part of the financial decision making variable. Many factors or determinants such as nature of business, capacity level, quality of customer, economic condition etc have to considered in cash management. Apart from that level of funds flow, method of creating cash management, different techniques to cash management, cash cycle etc are to be considered.

## 5.3 Recommendations

Based on the analysis and interpretation of data, the followings are the suggestions that have been recommended for healthy financial performance and future improvement of cash management in NTC.

**1. Efficient Management of Cash**

NTC should have proper cash planning to estimate the cash receipts and payments. It helps to minimize the problem of excess or depicit of cash balance. Company should first identify the cash needs for operation. After identifying the cash needs, the company should estimate the cash to be received. It could be estimated with proper budgeting of cash sales and collection of creditors. When the cash flows are forecasted, the company should then determine the minimum level of cash balance needed to the company. At the same time, the seasonal requirement should also be considered.

**2. Appropriare Investment Policy for Surplus Cash**

The cash balance in each of the fiscal year shown very high and idle in the company. So there must be appropriate policy and strategies to use that surplus cash in short term investments and in other profitable sectors.

**3. Maintain Liquidity in Balance**

There is high liquidity in the company. If the liquidity of the company is too high, it adversely affects the profitability of the company. So, the company should hold the cash as required to run annual operating expenses. Idle cash should be utilized in appropriate sector, which can be for extending services of the company investment in secured sector etc.

**4. Clearly state the Credit Policy**

The NTC hasn't seen any particular credit policy towards its debtors and creditors. Company can manage its cash balance to some extend by adopting appropriate credit policy. Thus it is recommended to adopt a particular credit policy.

## 5. Use internal source in Full Capacity

Internal source is sufficient to finance whole budgeted expenses of the company. It should not borrow loan from foreign institution because it involves cost.

## 6. Revised the Strict Provisions Regarding Cash

Comapany should adopt practical procedure and practices for handling cheques and cash. To deal with financial and cash matter, responsibilities, authority and accountability should be delegated for making process more practical and flexible. It encourages for promt decision by responsible person. It helps to implement the budget timely.

## 7. Upgrade the Financial Management Skill

Cash planning manager or experts should be appointed in the company. The lack of knowledge of modern financial management's tools and techniques among existing employees in the company is one of the causes of poor financial performance. Therefore company must ensure to upgrade the current financial management skill.

## 8. Decrease Average Collection Period

The company should pay much attention towards collection of A/C receivable and try to decrease average collection period for effective cash management.

## 9. Maintain Optimum Cash Balance

Company should maintain optimum cash balance by matching surplus and deficiency of cash balance. As the size of the cash balance directly varies with peak period, slack period, general economy factors and investment

opportunities. The company should take all these situations, while determining optimum cash balance.

## 10. Investment in Marketable Securities

There is close relationship between cash and marketable securities. Excess cash should normally be invested in marketable securities which can be conveniently and promptly converted into cash. The excess cash may build up during slack season but it would be needed when the demands pick up. This excess cash during slack season is idle temporarily, but has predictable requirement later on. Next excess cash may be held as buffer to meet unpredictable fiancial needs. The financial manager must decide about the portfolio of marketable securities in which the company's surplus cash should be invested. Company can invest its excess cash in many types of securities. As invest its temporary transaction balance or precautionary balance of both, its primary criteria in selecting a security will be its quickest convertibility into cash when the need for cash arises. In choosing these securities are safety maturity and marketability.

# BIBLIOGRAPHY

Bajracharya, S. (1990). *Cash Management in Nepalese Public Enterprises New Delhi:* An Unpublished Ph.D. Thesis, Submitted to Faculty of Management, Delhi University.

Ban, R. (2009). *A Study of Cash Management in Public Manufacturing Company: A Case Study of Bottlers Nepal Pvt. Ltd.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, TribhuvanUniversity.

Baral, P.R.(1994). *Inventory Management: A Case Study of Gandaki Noodles Pvt. Ltd.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, TribhuvanUniversity.

Baumol, W.J. (1952). The Transaction Demand for Cash: An inventory theoritic approach, *quarterly journal of economic LXV*.

Betty, J. (1972). *Management Accountancy Plymouth*: English language Book Society & Mc donald and Evans Ltd.

Bhandari (2008). *Cash Flow Analysis of Nepal Telecom*. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Bhatta, R.D. (1997). *An Evaluation of Financial Position of Nepal Electricity Authority Kathmandu:* An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Chandra, Prasanna (1994). *Financial Management India*: Tata Mc Graw Hill Publishing Co. Ltd.

Chataut, B. (2008). *A Study on Cash Management in Nepal Telecom Kathmandu*: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Dangol, R.M. (2000). *Financial Management.* Kathmandu: Taleju Prakashan.

Friedman, M. (1959). The Demand for Money, Some Theoretical Empirical Results: *The Journal of Political Economy. Vol. LXVII.*

Gautam, B. (1999). *The Cash Management: A Case Study of Gandaki Noodles Pvt. Ltd. Kathmandu:* An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Giri, R. (1986). *A Study in Working Capital Management Kathmandu*: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Gupta, S.C. (1999). *Fundamentals of statistics Mumbai, India*: Himalayan Publishing House.

Gupta, S.P. (1992). *Management Accounting India*: Sahitya Bhawan, Agra.

Hampton, J.J. (1989). *Financial Decision Making New Delhi, India*: Prentice Hall of India Pvt. Ltd.

Jain, S.P. & Narang K.L. (1993). *Financial & Management Accountancy New Delhi*: Kalyani Publishers.

Jedry, E.G. & Roger, W.C. (1984). *Management in Crisis Management*: Review of American Management Association.

Khan, M.Y. & Jain P.K. (1994). *Management Accounting.* New Delhi: Tata McGraw Hill Publishing Company Ltd.

Kothari, C.R. (1989). *Research Methodology Method and Techniques.* New Delhi: Wiley Eastern Ltd.

Kuchhal, S.C. (1990). *Financial Management.* Allahabad*:* Chaitanya Publishing House, University Road.

Levin, R.I. & David, S.S. (1991). *Statistics of Management.* New Delhi: Prentice Hall of India Pvt. Ltd.

Mathur, B.P. (1993). *Public Enterprises Management.* New Delhi: McMillan Publishing Company.

Miller, M.H. & Orr, D.A. (1966). Model of the Demand for Money in Firms: *Quarterly Journal of Economic LXY.*

Neupane, T. (2004). *A Study of Cash Management in Nepalese Public Enterprises: A Case Study of Salt Trading Corporation Ltd.* Kathmandu:

An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Orgler, Y.E. (1970). *Cash Management Method & Model California.* USA: Wonds Worth Publishing Company.

Pandey, I.M. (1999). *Financial Management.* New Delhi: Vikash Publishing House Pvt. Ltd.

Paudel, S.R. (1992). *A Study on Decision Making in Nepalese Public Enterprises.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Pradhan, B. (1997). *A Case Study of Cash Management on Salt Trading Corporation Ltd.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Pradhan, R. (1986). *Management of Working Capital.* New Delhi: National Book Organization.

Pradhan, S. (1989). *Working Capital Policy of Manufacturing Public Enterprises in Nepal.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Prithi (2003). *A study on cash Management of United Mission Hospital Tansen.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Sainju, (2003). *Cash Management in Public Manufacturing Enterprises of Nepal: A Case Study of Royal Drugs Limited.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Saksena, R.M. (1974). Towards More Efficient Cash Management. Kathmandu*: Journal of Management Quarterly no. 5.*

Sharma, S. (2002). *Management Accounting Practices in the listed companies of Nepal.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Shrestha (2005). *Cash Management in Public Manufacturing Enterprises of Nepal: A Case Study of Royal Drugs Limited.* Kathmandu: An

Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Shrestha, (2009). *Cash Management Practices in Nepal Telecom*. Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Shrestha, M.K. (1980). Cash Management in Corporation Kathmandu: *Prakashan Vol. 1, No. 27.*

Shrestha, M.K. (1980). *Financial Management.* Kathmandu: Curriculam Development Centre.

Shrestha, S.L. (1994). *A Study on Working Capital Management in Bansbari Leather and Shoes Factory.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Simon, H. & Kerrenbrock, W.E. (1964). *Intermediate Accountancy.* India: South Western Publishing Company.

Solman, E. & Pringle, J.J. (1978). *An Introduction to Financial Management.* New Delhi: Prentice Hall of India Pvt. Ltd.

Sprenkle, T. (1967). Large Economic Units, Banks and the Transaction Demand for Money: *Quarterly Journal of Economic. Vol. LXXX.*

Upadhyay, B.P. (1993*). A Study on Account Receivable Management of Lumbini Sugar Mills Limited.* Kathmandu: An Unpublished Master Degree Thesis, Submitted to Faculty of Management, Tribhuvan University.

Van Horne, J.C. (1974). *Corporate Financial Management.* New Delhi: Prentice Hall of India.

Welch, G.A., Hilton, R.W. & Paul, N.G. (1988). *Budgeting Profit Planning and Control.* USA: Prentice Hall Inc. Englewood Cliffs N.J.

Weston, J.F. & Bringham, E.F. (1978). *Managerial Finance.* USA: The Dryden Press, Illinois.

# APPENDICES
## APPENDIX - I

**Introduction of the Organization**

Nepal Telecom (NT/NTC) is the leading and the largest telecommunication company of Nepal. It is also known as Nepal Doorsanchar Company Limited (NDCL). NDCL is widely acknowledged to be the most profitable state-owned enterprise and according to some it is the only profitable state-owned enterprise in Nepal. The combination of large margins and a dominant position in the market place enabled NDCL to amass substantial cash reserve that it has been until very recently, reluctant to spend. The central office of Nepal Telecom is located at Bhadrakali, Kathmandu. It has branches, exchanges and other offices in more than 190 locations within the country.

Telecommunication was introduced in Nepal towards the beginning of the twentieth century during the Rana periods. Telecommunication Department was established formally in 2016 B.S during the first five years plan as a part of the ministry of construction, transportation and communication of HMG Nepal. Before implementation of first five year plan, Nepal had wireless relation only in twenty eight centers in various part of the country. Government had extended its scope and activities in subsequent plan period in several areas of the country. The first telephone exchange was established in KTM in 1960. In 2026 B.S (October, 1969) for the systematic manner telecommunication board was established and its resource based considerably strengthened in terms of its ability to handled modern telecommunication technology for the establishment of new telecommunication facility in Nepal. In the year 2031 B.S Microwave transmission links were established for internal trunk.

Later, in Ashadh first of 2032 B.S (July 15, 1975), telecommunication board was converted into Nepal Telecommunication Corporation (NTC), a fully

Government owned statutory organization under the telecommunication corporation Act 2028.

The objectives adopted by the corporation are as follows:
1. To provide telecommunication services according to national communication service plan.
2. To provide high quality, reliable and economic service.
3. To exchange information for the preparation of fundamentals for development of nation.
4. To establish telecommunication links among the countries around the world.
5. To participates the public in telecommunication so as to uplift their living standard.
6. To provide prompt service to the places of demand.
7. To introduce new technologies and cope up with time and tradition.

The Nepal Telecommunication Corporation was converted into a public limited company as Nepal Doorsanchar Company Limited on first Baisakh 2061 (April 13, 2004). Its aim is to remove restrictions on investment and achieve broad market opening. It is also known to general public by the name Nepal Telecom as registered trade mark. The new company was registered with the company Registrar's office on 11th Magh 2060 under the company Act 2053 and notice to this effect was published in Nepal Gazette dated 26th Chaitra 2060.

Goal, mission and the vision of Nepal Telecom is as follows:

**Goal:** "Goal of Nepal Telecom is to provide cost effective telecommunication services to every nook and corner of the country."

**The Mission Statement:** "Nepal Telecom, as a progressive, customer spirited and consumer responsive entity, is committed to provide nation-wide reliable

telecommunication services to serve as an impetus to the social, political and economic development of the country."

**The Vision:** "Vision of Nepal Telecom is to remain a leading player in telecommunication sector in the country while also extending reliable and cost effective services to all."

Nepal Telecom is the monopoly provider of wired fixed telephone. Also it was the only provider of basic telephony services in Nepal until united Telecom Limited (UTL) started providing services in 2003. It is the sole provider of PSTN, ISDN and leased-line services in Nepal. And until spice Nepal launched its own mobile services in late 2005, it is also the sole provider of GSM mobile telecommunication services.

At present Nepal Telecom is providing voice services via PSTN, CDMA and GSM technologies to its fixed and mobile subscribers. It has been providing other value added services (VAS) like voice mail (VMS) service, Interactive Voice Response (IVR) service and Intelligent Network (IN) services such as prepaid calling- card (PCC) service, Advanced-free phone (AFS) service. In addition, Nepal Telecom also provides internet service to its fixed mobile subscribers and data services to corporate customers via leased lines. For voice and data services, Nepal Telecom is using separate transport networks like IDM transport and packet switched transport network, which is not cost effective from CAPEX and OPEX point of view.

As per the framework of the currently running 11th plan, Nepal Telecom plans to increase its basic telephony penetration by around 4% and to provide broadband services in the form of High Speed Internet (HSI). The first three years of the plan covers the implementation of Next Generation Network (NGN) to expand around 500K voice and 125K DSL lines and deploy various access nodes throughout the country.

In an attempt to privatize the hundred percent state owned Nepal Telecom, the incumbent and leading telecom operator in Nepal, the Government has decided to offload its holding in Nepal Telecom by providing 5% of total shares to employees of Nepal telecom and 10% of total shares to general public. Currently paid up capital of Nepal Telecom is Nepalese Rupees fifteen Billion (150,000,000 number of ordinary shares @ Rs 100 per share)

**Milestones of Nepal Telecom**

1913: Establishment of first telephone lines in Kathmandu

1914: Establishment of Open Wire Trunk link from Kathmandu to Raxaul

1935: Installation of 25 lines automatic exchange in palace

1936: installation of open Wire Trunk line from Kathmandu to Dhankuta

1950: Establishment of Telegram service

1950: Introduction to high frequency Radio System (AM)

1950: Establishment of CB telephone exchange (100 lines) in Kathmandu

1951: Installation of Open Wire Trunk line from Kathmandu to Palpa

1955: Distribution of Telephone line to general public

1957: Registered as an ITU state member on 5th December 1957

1962: First Public Telephone exchange in Kathmandu (300 lines CB)

1964: Beginning of International Telecommunications service using HF Radio
      to India and Pakistan

1965: First Automatic Exchange in Nepal (100 lines in Kathmandu)

1974: Microwave transmission links establishment for internal trunk

1982: Establishment of standard "B"Type earth station for international circuits

1982: Establishment of SPC telex exchange

1983: Establishment of digital Telephone exchange

1984: Commencement of STD service

1984: Relaible rural telecom service (JICA)

1987: Commencement of ISD service

1995: Installation of optical fiber network

1996: Conversion of all Transmission link to Digital Transmission link

1996: Automation of the entire telephone network

1996: Independent Int. Gateway exchange established

1996: Introduction of VSAT services

1997: Digital link with D.O.T India through Optical fiber in Birganj- Raxual

1999: GSM NTC Mobile service

2000: Implementation of SDH Microwave radio

2000: Internet Service

2001: Payphone Service

2002: East West Highway Optical Fiber project

2003: GSM Namaste Pre-paid Service

2004: Transformation to Nepal Telecom from NTC Corporation

2004: Prepaid calling card (PCC) service (Intelligent Network Service)

2005: Advanced free phone (AFS) service (Intelligent Network Service)

2005: Soft launch of CDMA

2005: Access Network Services

2005: Outsourcing of inquiry service (197)

2006: PSTN Credit limit service –PCL Service (Intelligent Network Service)

2006: Home Country Direct Service-Nepal direct (Intelligent Network Service)

2006: MCC (198) Complain registration via IVR in Kathmandu Valley

2006: CDMA Limited Mobility service in Kathmandu Valley

2007: CDMA full mobility service

2007: Cheap calls @ NRS 8.00/min to USA and Canada using PCC Service

2007: 188 IVR Service

2007: GPRS, 3G and CRBT Services introducedin GSM Mobile

2008: Broadband ADSL Service launched

2008: IVR Service 1607 started for GSM and CDMA PUK Enquiry

2008: PSTN VMS- Notice board Service launched

2009: IVR 198 and 1606 Service extended outside KTM valley

2009: SMS Service from GSM to CDMA mobile started

2009: Postpaid CDMA Mobile Service started

2010: EVDO Service started

2010: Soft launch of easy phone IP call service

# APPENDIX - II

## Financial Highlights of NTC

| Description | 2061/062 | 2062/063 | 2063/064 | 2064/065 | 2065/066 |
|---|---|---|---|---|---|
| Total Income (Rs.000) | 9194297 | 11058915 | 14751624 | 17889310 | 22147582 |
| Personnel Cost (Rs. 000) | 1418531 | 1486851 | 1764934 | 2204296 | 3560212 |
| Operation & Maintenance cost (Rs. 000) | 552162 | 655127 | 797398 | 1219002 | 1578348 |
| Depreciation (Rs. 000) | 1048436 | 1195081 | 1366504 | 1486129 | 1681293 |
| Other costs (Rs. 000) | 1253640 | 878129 | 2839466 | 2108427 | 1673739 |
| Total costs (Rs. 000) | 4272768 | 4215188 | 6768302 | 7017854 | 8513592 |
| Profit before tax (Rs. 000) | 4921529 | 6843727 | 7983322 | 10871456 | 13633990 |
| Profit after tax (Rs. 000) | 3542461 | 4936647 | 5652688 | 7948902 | 10178025 |
| Total Shareholder's equity ( Rs. 000) | 20825855 | 23686027 | 26794281 | 35343894 | 41629022 |
| Total Capital employed (Rs. 000) | 20850094 | 23656027 | 27985961 | 35343894 | 46280626 |
| Return on Capital employed (%) | 17.10 | 22.17 | 21.88 | 25.12 | 24.94 |
| Return on Shareholder's equity (%) | 17.11 | 22.18 | 22.40 | 25.57 | 26.44 |
| EBITDA Margin (%) | 65.38 | 73.07 | 63.78 | 69.53 | 69.33 |
| Book value per share | 138.54 | 157.91 | 178.63 | 235.63 | 277.53 |
| No. of shares | 150000000 | 150000000 | 150000000 | 150000000 | 150000000 |
| EPS | 23.62 | 32.91 | 37.68 | 52.95 | 67.85 |