

# CHAPTER - I

## INTRODUCTION

### 1.1 Background

#### 1.1.1 General Background

Specially, the cash management plays an important role in overall management of business organization. All business works begin with the provision of sufficient cash to do business. Cash as a means and ends of business operations must be held in optimum quantity. Cash has become a very expensive as well as a very rare resource. Managing it effectively has become a key to the profitability of companies and for some it may even be a question of their ultimate survival. The various components of cash management have been categorized. These are the functions of cash management, managing collection and transferring funds, concentration banking, lock-box system and other procedures, control of cash disbursements, zero balance account, electronic fund transfer, balancing cash and marketable securities, compensating balance and fees, model for determining optimal cash, inventory model and stochastic model. (*Van Horne; 2002: 315-389*)

Cash management is one of the key areas of working capital management. A part from this fact that is the most liquid current assets, cash is the common denominated to which all current assets can be reduced because the major liquid assets i.e. receivable and inventory get eventually converted in the cash. (*Khan & Jain; 2003: 664 - 700*)

Cash is the basic input needed to keep the business running on continuous basis so the cash should be managed efficiently in order to keep the firm sufficient liquid and to use excess cash in some profitable way. The firm should held sufficient cash neither more nor less. Cash shortage will dispute the firms operation, while excessive cash will simply remain idle, without contributing anything towards the firm's profitability. Thus, a major function of the financial manager is to maintain a sound cash position. (*Pandey; 1997: 839*)

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Cash flow management is the process of monitoring, analyzing, and adjusting business' cash flows. For businesses, the most important aspect of cash flow management is avoiding extended cash shortages, caused by having too great a gap between cash inflows and outflows. Business won't be able to stay in market if it can't pay its bills for any extended length of time.

Therefore, business need to perform a cash flow analysis on a regular basis, and use cash flow forecasting so they can take the steps necessary to head off cash flow problems. Many software accounting programs have built-in reporting features that make cash flow analysis easy. One of the most useful strategies that used on small businesses is to shorten its cash flow conversion period so that business can bring in money faster.

Planning and controlling are the primary function of business. Businesses cannot success or live a minute in competitive global environment without it. In most cases, revenue planning is not only the most important also the most difficult to prepare. Revenue plan provides basis management decision about marketing and based on those decisions, it is an organized approach for developing in a comprehensive sales plan.

Cash management is the key function of controlling. It is the heart of the business. A business can be run without proper planning but within a minute by lack of little than little money. Cash cycle is a ratio used in the financial analysis of a business.

Keeping a close eye on business, cash flow make easy to forecast potential cash flow problems and take steps to remedy them. So, the financial manager should observe the easiest ways to monitor business' cash flow is to compare the total unpaid purchases to

the total sales due at the end of each month. If the total unpaid purchases are greater than the total sales due, it'll need to spend more cash than it receives in the next month, indicating a potential cash flow problem.

In any type of firm the financial manager should not only attain towards the aspect of profitability but he should also turn towards ensuring the liquidity of the corporation. Since, every business is a constant debtor and enterprise borrows funds from financial institutions and purchase merchandise on credit thereby is fewer obligations to the government. Thus, every enterprise owns liabilities unless the payment is made at the maturity of the particular debt the reputation of the firm is tarnished at worst the creditor may force the firm to terminate its business.

The cash balance of the firm is influenced by credit position of the firm, status of firm's receivable, availability of short-term credit etc. Management should make every effort to speed up cash inflow and delay cash outflow. The cash management of corporation is significant enough to have the best use of idle cash balances, and to take advantage from the opportunity interest in cash velocity determined by sales volume and turnover of assets. So, corporate manager must be familiar with the cash cycle to undertake measure for improvement of collection and disbursement.

### **1.1.2 History of NT**

In Nepal, operating any form of telecommunication service dates back to 94 years in B.S. 1970. But formally telecom service was provided mainly after the establishment of MOHAN AKASHWANI in B.S. 2005. Later as per the plan formulated in First National Five year plan (2012-2017); Telecommunication Department was established in B.S.2016. To modernize the telecommunications services and to expand the services, during third five-year plan (2023-2028), Telecommunication Department was converted into Telecommunications Development Board in B.S.2026. After the enactment of Communications Corporation Act 2028, it was formally established as fully owned Government Corporation called Nepal Telecommunications Corporation in B.S. 2032 for the purpose of providing telecommunications services to Nepalese People. After

serving the nation for 29 years with great pride and a sense of accomplishment, Nepal Telecommunication Corporation was transformed into Nepal Doorsanchar Company Limited from Baisakh 1, 2061. Nepal Doorsanchar Company Limited is a company registered under the companies Act 2053. However the company is known to the general public by the brand name Nepal Telecom as registered trademark. (<http://www.ntc.net.np/utilities/ntbrief.php> )

### **1.1.3 Present Scenario of NT**

Nepal Telecommunications corporation (NTC), renamed Nepal Telecom (NT) is a public sector entity owned almost (85% of share capital) by government and 10% by general public and 5% by employee, administered by a government appointed Board of Directors, which includes a chairman and six voting members which includes Managing Director of the company and Employees' Representative. The company is an inevitably accountable autonomous and organized institution.

The existing ICT (Information and Communication Technology) scenario in the country clearly shows that the Nepalese telecom market is poised for significant growth. In Nepal Telecom, we pride ourselves on the timely forecast of the scale of business opportunities few years back and subsequently embarking upon the vision of having big-sized telecom infrastructure projects catering both urban and rural markets. The result was investment decisions amounting to more than Rs1200 crores in the past four years resulting cumulative total investment of Rs 4400 crores in the year ending Ashad 2064. (*Annual Report, 2007: 1*)

NT's management has come to believe strongly that growth in telecom infrastructure will greatly contribute in the economic progress of the country. Hence, with a new vigor and with "value-driven" broader corporate purpose, the NT has decided to play an important role in the nation building endeavor by rapidly deploying all kinds of telecom services throughout the country, including remotest villages.

Until the year 2002/03, more than 50% of VDCs did not have any kind of telecom services; tele-density was just 2% with huge gap between supply and demand of telecom services in urban as well as rural areas. By the end of the year 2006/07, Nepal Telecom had 520,000 PSTN subscribers, 1,219,000 mobile subscribers, 311,000 CDMA subscribers and 25,000 Internet subscribers.

Consequently, Nepal Telecom alone succeeded to increase total tele-density to the present ratio of 7.8%. Similarly, in the same period, VDCs with telecom service increased from 1900 to 2850. Presently, out of total 75 districts, 71 districts are being served with CDMA system and 55 districts with GSM mobile. This means 71 districts and about 2006 VDCs have connectivity for both voice and Internet access, which is sure to bring revolutionary changes in the socio-economic life-style in those remote villages.

On urban front, Nepal Telecom is equally aware of ever-increasing demand for latest technologies and newer services, and accordingly Nepal Telecom has initiated steps to go along with fast-paced technological development in the rest of the world. As per this strategy, Nepal Telecom introduced 3G Mobile (WCDMA) in the first quarter of the year 2007, which made Nepal the first country in South Asia to introduce 3G mobile (WCDMA) service.

Similarly, broadband service, triple play service, and host of other value-added services are in the offing in near future. The operating revenue of the company increased from about Rs 720 crores in the fiscal year 2002/03 to Rs 1300 crores in the fiscal year 2006/07. Financial and economic sustainability of the company could be easily judged as “comfortable” due to the fact that net profit available for appropriation has increased from Rs 300 crores in the fiscal year 2002/03 to about Rs 600 crores in the year 2006/07.

To achieve our sustained business growth we all must realize that the coming 3 years are extremely crucial and of great significance in shaping up our organization's future

through "Mission 2010". The ultimate goal of "Mission 2010" is to achieve the set target of our 3 year development program (additional new 3.5 million GSM, attain 2 million CDMA, expansion of PSTN and value added services) we have undertaken in all sectors of services. (*Annual Report 2007: 1*)

The study mostly deals with the cash management of Nepal Telecom. Also the study briefly takes over the account of various methodologies of the implementation, current technologies used in the telecommunication and its future policy. The study also depicts the future of telecommunication in Nepal.

Nepal telecom is one of the most prominent public enterprises that is earning relatively good profit and paying highest taxes to government exchequer. The main purpose of establishment of company in Nepal was to strengthen the administrative efficiency of the government. Nepal Telecom, even with its present status of being a public sector enterprise, has the ambition of becoming a dominant player in the telecommunication sector, giving an affordable and the cheapest possible services to all regions including the remotest areas of nation retaining its present financial health even in the coming competitive environment. The national goal of Nepal Telecom is to provide affordable telecommunication services to all nooks and corners of the nation. It was later expanded to serve the needs of development of various sectors as expansion of foreign trade tourism development and international integration. (*Annual Report, 2002: 5-8*)

Nepal Telecom has always put its endeavors in providing its valued customers a quality service since its inception. To achieve this goal, technologies best meeting the interest of its customers has always been selected. The nationwide reach of the organization, from urban areas to the economically non- viable most remote locations, is the result of all these efforts that makes this organization different from others.

As per the framework of the currently running 11th Plan, NT 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 3 years of the 11th 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. At present, NT 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- Freephone (AFS) service, PSTN-Credit-Limit (PCL) service, Home- Country-Direct (HCD) service. In addition, NT also provides internet service to its fixed/mobile subscribers and data services to corporate customers via leased lines. Recently, NGN has emerged as an alternative technology for replacing Public Switched Telephone Network. Deployment of NGN will provide unified resources for voice and multi-media. (*Annual Report, 2007: 14- 15*)

#### **1.1.4 The Goal, Mission and Vision of NT**

##### **1.1.4.1 Mission**

"Nepal Telecom as a progressive, customer spirited and consumer responsive Entity is committed to provide nation-wide reliable telecommunication service to serve as an impetus to the social, political and economic development of the Country"

##### **1.1.4.2 Vision**

"Vision of Nepal Telecom is to remain a dominant player in telecommunication sector in the Country while also extending reliable and cost effective services to all"

##### **1.1.4.3 Goal**

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

#### **1.1.5 Services of NT**

Nepal Telecom is the role institution in the state to provide telecom services. It has offered and provided its services to all possible parts all over the nation in affordable price and position. Nepal Telecom as far as possible has adopted the new technologies and inventions around the world. Liberalization in telecommunication services is the

result of globalization growth of markets, new technological changes and the emergence of new services.

The services provided by Nepal Telecom are as follow (MIS Report, Ashad 2065: 31-32):

**A. Types of Telephone Services provided by NT (with number of subscriber)**

- i) PSTN Telephone Services Subscriber
- ii) GSM Mobile Services (Post-Paid, Pre-Paid and WCDMA 3G Mobile)
- iii) Services of CDMA technology (Fixed type, SKY with mobility, CDMA Pre-Paid Mobile and PCMCIA Data Card)
- iv) Marts Telephone Services
- v) VHF Telephone Services
- vi) V-SAT Telephone Services
- vi) Pay Card Phone

(The Overall Telephone subscribers are 27,29,637 which includes the 532,391 PSTN Telephone Subscribers, 102,446 Post-Paid Mobile Subscriber, 16,14,176 Pre-Paid Mobile Subscriber, 608 WCDMA 3G Mobile Subscriber, 44395 CDMA Fixed Subscriber, 305631 SKY Phone Subscriber, 127878 CDMA Prepaid Mobile Subscriber, 2112 PCMCIA Data Card, 639 Marts Telephone Line, 361VHF Telephone Line, 656 V-SAT Telephone line and 433 Installed Pay Card Phone. )

**B. Internet & Email Services of NT**

- i) Internet through PSTN dial up and ISDN dial up
- ii) Internet trough CDMA and GSM technology
- iii) Internet through ADSL technology
- iv) Email services

(Total Internet Customers of NT are 40,009 and email users are 4,211, except the ADSL subscriber: the capacity of ADSL is 22,000.)

**C. Telex Services**

(NT has a Telex Capacity of 256 and only 70 lines of them are distributed.)



### **1.1.6 Focus of the Study**

Nepal Telecom generates its revenue by providing different type of services like basic fixed line services, GSM and CDMA mobile, internet (dial up and broad band), lease line etc. Apart from these the source, which generates significance revenue for the company, is international settlements from international call. Nepal Telecom, due to its nature of business, has to transact with significant number of customers in addition to dealing with foreign carriers for its international sharing revenue. Revenue collection is always a much-contemplated topic for companies and enterprises. If we review the following data related to annual revenue and annual cash collection of past few years, it is satisfying considering the defaults of dues in other business in our country. (*Pokhrel, 2005: 59-60*)

Nepal Telecom has two different ways of revenue collection process.

#### **(i) Collection through counters-**

In smaller exchanges collection being done manually but in almost 50 places collection of cash has been done through online cash collection process, which has far better efficiency than manual cash collection. For the sake of increasing efficiency, Nepal Telecom is collecting its revenue online its exchanges having lines more than 1000.

#### **(ii) Collection through the Banks-**

Now Nepal Telecom has stated collecting its revenue through its revenue through the banks also. Nepal Investment Bank, Bank of Kathmandu, Kumari Bank is collecting revenue through their counters for mobile. As a result subscribers are able to pay their dues at their nearest bank's counters as per their convenience. Similarly, also in Katmandu Valley Bank of Katmandu, Kumari Bank, Nepal Investment Bank, Nepal Industrial and Commercial Bank, Machhapuchare Bank, Laxmi Bank and Rastriya Banijay Bank are collecting the revenues for PSTNs subscribers of Nepal Telecom. And in near future few other banks will also be participating in PSTNs revenue collection process.

A good communication system is a must for the success of the socio-economic and political development of the country. Nepal Telecom is the largest company serving for the telecommunication sector in Nepal. Profitability is the major indicator of the financial performance of any enterprises. The net profit of company is too high. But, the amount of revenue is very low in comparison to the investment on total assets. This shows how the assets have not been utilized. Property and the resources are just lying without any significant use. All business works begin with the provision of sufficient cash to do business. Cash as a means and ends of business operations must be held in sufficient quantity. Holding of cash both in excess and insufficient than requirement may lead a firm to problems. Shortage of cash put obstruction in the way of production where as excessive cash than requirement contribute nothing to the profitability of firm as idle cash earns nothing. Thus, NT's, financial manager has to confront the problem of maintaining adequate or optimal level of cash, which passes risk and also does not put negative impact of firm's profitability.

Basically, efficient cash management is concerned with the management of cash inflow, outflow and cash flow within the firm and also includes the matters relating to financing of deficit and investment of surplus cash so as to maintain optimum cash balance. The basic issue of cash management is to enable a firm to maintain sufficient liquidity and also at the same time improve its profitability.

The general objective of Nepal Telecom is to provide essential nationwide low cost, reliable, affordable and readily available telecommunication services to the general public for the overall improvement of integrity and economic development. In the age of Information Technology, Nepal Telecom's vast telecommunications networks play a key role in supporting the growth of business in the IT field. Since, Nepal Telecom's responsibility has been to provide reliable and affordable telecommunications services throughout the nation. Nepal Telecom fulfills this responsibility and contributes towards the overall socio-economic development of the nation. Since, Nepal Telecom is the role device and powerful instrument for the development of information system and has been struggling hard to enter Nepal into modern arena of this changing world. However,

there are other competitors in the same industry- they are United Telecom, Spices Nepal Pvt. Ltd., and few others are in the way of establishment.

## **1.2 Statement of the Problem**

The earlier studies on the demand of cash did not report unanimous findings. A lot of controversies exist with respect to the presence of economies of scale in cash holdings and the effects of capital costs on the demand for cash. Cash management is concerned with all decisions and acts that influence the determination of the appropriate level of cash and their efficient use as well as choice of the financing method, keeping in view of liquidity.

The cash and bank balance of an enterprise is that portion of its total current assets which is put to variable operative purpose and has the characteristics of greater divisibility, liquidity and rapidity of turnover which influence the types and terms of financing.

Beginning of the work of Bajracharya, 1990 examined the cash management practices in public enterprises. Their view about the cash management indicates the existence of poor cash management in various enterprises. However, the question exists as to what insight over the problem of cash management. Cash management refers to the proper management of firm cash position. It is concerned with all decisions and acts that influence the determination of the appropriate level of cash and their efficient use as well as choice of the financing method, keeping in view of liquidity. Hence, cash management is in itself a decision-making area within the framework of the overall current assets management. There is no unanimous finding as regards to the effect of interest rate on demand for cash.

(*Selden, 1961: 241-247*) showed the statistically significant negative relationship between interest rates and demand for cash while (*Friedman, 1959: 327*) did not find the same. It all shows that there is no unanimous finding with respect to the economies of scale in cash holdings, and the interest cost effect on demand for cash. In order to

validate one view or the other, little study has so far been conducted in the context of Nepal.

So, the research has attempts to test this model in Nepalese public utility enterprises, Nepal Telecom. Cash management has been the most intricate and challenging area if modern corporate finance as much as the management always face a trade-off between the liquidity and profitability of the firm. Though most of the enterprises in Nepal have been well recognized the importance of proper cash management, they are still facing the problem of cash management. (*Bajracharya, 1990: 23*)

Most enterprises had periodic accumulation of surplus cash and corresponding cash shortage from time to time. Most of the Nepalese public enterprises never thought of the source of current assets i.e. cash and usually depends on GN (then called HMG) for it. Thus, the existing problems are there- in the area of finance is mostly directed towards the management of cash rather than in any other area.

Nepal Telecom is role institution in the telecom sector in the country with high capital investment. It has been financed by government of Nepal and many donor agencies. Although it has enjoyed almost full monopoly in the industry, now it is facing market competition with same service provider in some areas. So, now it must prepare and strengthen existing competency to achieve productive output in by optimum utilization of resources. The management must focus in implementation of effective and appropriate action plan, strategies, and control mechanism.

Cash management is the heart of overall planning and control system of management. Although, cash management in NT is primarily based on traditional approach has also been suffered from problem of efficient cash management, it has applied several tools and established mechanism for proper planning and control of cash. The study attempts to have an insight over the problem of cash management of Nepal Telecom so that strength has been gathered to identify the answer of the following question as major problem:

1. What kind of planning and controlling devices of the cash is there in NT?
2. What are the internal control policy regarding cash control practices in NT?
3. Is there any cash shortage or excess in the company?
4. What are the sources of financing or sector of investment?
5. What is the liquidity and cash position of the company?
6. What steps should be taken for close the cash gap?
7. Whether the company should have maintained optimal cash balance or not?

### **1.3 Objectives of the study**

The major objective of the study is to examine the management of cash in NT. The basic objectives are as follows.

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

### **1.4 Significance of the study**

NT is one of the most prominent public enterprises that is earning relatively good profit and paying highest taxes to government. NT, even with its present status of being public sector enterprise, has the ambition of becoming a dominant player in the telecommunication sector, giving affordable and the cheapest possible services to all regions including the remotest areas of the nation retaining its present financial health even in the coming competitive environment.

Globally, the concept of zero working capital has got more emphasis. The expert, researcher and practitioner are involved in great effort in the management of working capital management through efficient cash management. The most important objective of cash management is optimizing the use and collection of cash.

This study is focused to analyze cash management in NT. Cash management contributes to improve the profitability as well as the overall financial performance of an organization to help the best utilization of resources.

This study will be concise, brief, practical data based, usable and valuable to the major parties interested in maximization through cash management; this will also serve as a reference for the further study and data collection. This will be equally useful and beneficial to NT, MOIC Government of Nepal, and Board of Directors of Nepal Telecom, Shareholders of the company, employee and other stakeholders. Lastly, it will provide relevant and pertinent literature for further research on the field of cash management. Thus, the study of cash management is rewarding.

### **1.5 Limitation of the study**

The study is confined only to the revenue effectiveness and cash management of Nepal Telecom. Following factors have limited the scope of this study:

- (a) Cash management study covers the analysis of recent five years i.e. F/Y 2061/62 to 2065/66.
- (b) The accuracy of this study is based on true response and the data available from management of Nepal Telecom.
- (c) This study may not complete in sense because it does not cover the whole financial area of Nepal Telecom. Study period could not be extended due to the unavailability of data.
- (d) The study is based on historical data and it is a case study of specific portion of cash management of the company. So the outcome of the study may applicable to the company only.
- (e) Only financial and managerial tools are used for analysis of data.
- (f) The time and resource constraint limits the study.

## **1.6 Organization of the study**

This study is presented on the following five chapters:

Chapter I : Introduction

Chapter II : Review of Literature

Chapter III : Research Methodology

Chapter IV : Presentation and Analysis of data

Chapter V : Summary, Conclusion and Recommendations

The first part concentrated with general background about cash & cash management, establishment of Nepal Telecom, role of government in development of Nepal Telecom and nation, service provided by Nepal Telecom. The second part concentrated on problems arises on study and focus of study respectively. The third part examine on objectives of the project study. The fourth part should present importance terms used during study and fifth part describes rationale of the study.

The second chapter embark conceptual framework like revenue planning & controlling, cash & cash management, cash management models, cash conversion cycle, credit management policy, cash flow statement etc. Third chapter includes a theoretical outline and a short review of previous research work done in revenue collection, and cash management strategies.

Third chapter describes the systematic way to solve about the research problem i.e. research methodology.

In fourth chapter, data collection from various sources have been presented and analyzed using various financial, statistical and mathematical tools.

Finally, a summary and the conclusions and recommendations of the study, the major implications of the findings are presented in chapter five.

## **CHAPTER - II**

### **REVIEW OF LITERATURE**

#### **2.1 Conceptual Review**

##### **2.1.1 Meaning of Cash Management:**

The meaning of cash may vary according to the purpose for which it is used and person with different level of knowledge. Cash is an asset constituting the most liquid item among all the assets. But to obtain cash involves cost because company has to rise through issue of share or by borrowing with interest.

"Cash is the most important form of current assets. It is the basic input and ultimate output. The term cash refers to all the money items and sources that are immediately available to help pay a firm's bills." (*Adhikari; 2006: 324*)

"So, a corporation must utilize cash efficiently to meet obligation of interest payment, if cash is obtained from borrowing. And if it is received through issue of share, the corporation has responsibility to owners in assuring them to pay favorable rate of return. Since, cash is not easy to obtain, the available cash must be prudently spent without incurring loss". (*Shrestha; 1980: 57-58*)

"Cash is only one constituent of what is essentially a combination of business resources. It is the part of working capital and as such provides the means of earning a profit investment for business. The objective should aim to obtain an optimum level for each component of current assets figure and a smooth and rapid conversion of these assets to cash both of these lead to improve earning power. He again suggested that if cash is taken for crash programmed for improving cash may have unexpected consequences. In the short term it will be possible to cut back expenditure on marketing and other function but future sales will probably suffer and, consequently, there will be further deterioration in cash flow. Further, he defined cash management as the process involved in the effective planning and control of cash requirements of a business". (*Betty; 1972:312*)



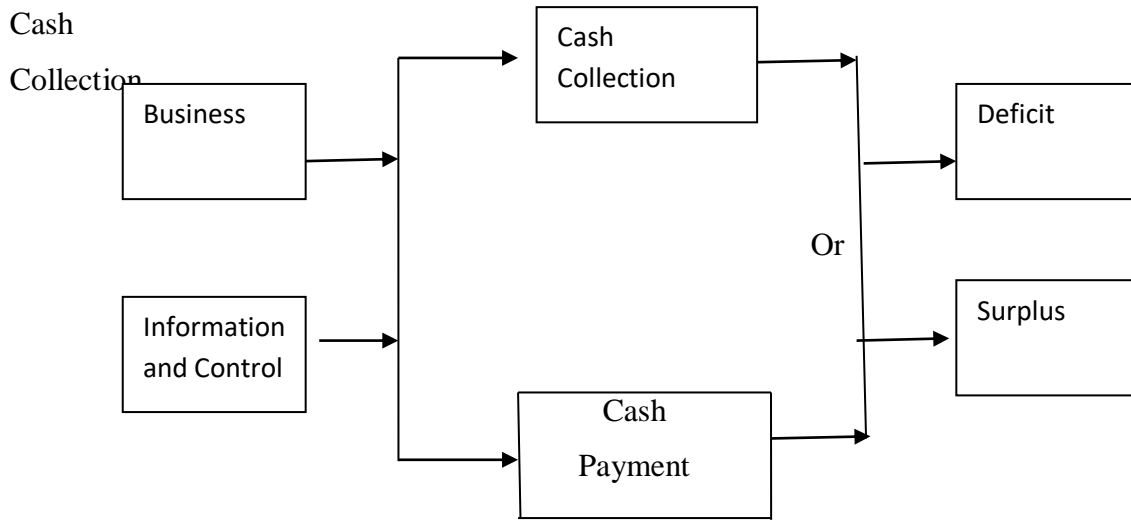
The firm should keep sufficient cash neither more nor less. Cash shortage will disrupt the firm's manufacturing operations while excessive cash will simply remain idle without contributing anything toward the firm's profitability. According to him, the major function of financial manager is to maintain sound cash position. Some theoretical insights about cash Management has presented by him. He said that cash management is concerned with the managing of

- (i) Cash flows into and out of the firm,
- (ii) Cash flows within the firms, and
- (iii) Cash balance hold by the firm at point of time by financing deficit or investing surplus cash.

It can be represented by a cash management cycle. Sales generate cash which has to be disbursed out. The surplus cash has to be invested while deficit has to be borrowed cash management seeks to accomplish this cycle at minimum cost. At the sometime, it also seeks to achieve liquidity and control. Cash management assumes more importance than other current assets because cash is the most significant and the least productive asset that a firm holds. It is significant because it is used to pay the firm's obligation. However, cash is unproductive. Unlike, fixed assets or inventories, it does not produce goods for sale. Therefore, the aim of cash management is to maintain adequate control over cash in some profitable way, the cash management cycle is shown as.

**Figure 2.1**

**Cash Management Cycle**



*(Source: Pandey; 1997:912)*

"The management of cash is also important because it is difficult to predict cash flows accurately, particularly the inflows. And there is no perfect coincidence between inflows and out flows of cash, during some period cash outflows will exceed cash inflows because payment of taxes, dividend or seasonal inventory buildup. At other times, cash inflows will be more than cash payment because there may be large cash sales and debtors may be realized in large sums promptly. Cash management is also important because cash constituted the smallest portion of the total current assets. Yet, management's considerable time is devoted in managing it. In recent past, as number of innovations have been done in cash management techniques. An obvious aim of the firm now-a-days is to manage its cash affairs in such a way as to keep cash balance at a minimum level and to invest the surplus cash in profitable investment opportunities".  
*(Pandey; 1997:912)*

"Cash is curtail component of working capital of a concern. Cash, like blood stream of human body gives strength to human body, gives strength to business unit. It is ultimate resource for a business; unit management should endeavor to secure larger cash at the end of each working capital cycle than what it had at the beginning of working

capital cycle. Further, the important objective in managing cash should be trade off liquidity and profitability in order to maximize profits. By keeping larger amount of cash, the firm is able to meet its obligation when they fall due and the risk of technical insolvency is reduced. However, cash is non earning assets, so unnecessary cash should not be kept as hand then the optimum required continuing the operation of the business efficiency. Liquidity and profitability must be balanced in such a way that the organization retains its liquidity and at the same time maximizes its profitability. They also stressed that business transaction, without involvement of cash is mythical in this monetary world. Today importance of cash management is recognized by all segments of organization activities. If some of departments are handled independently without considering their implications of cash management the conflicting interest of these departments are bound to create serious problem. The study of cash management is therefore considered as integrated approach to management science." (*Jain and Narang; 1993:181*)

"The cash is more often than other assets, is the item involved in business transaction. This is due to nature of business transactions, which include a price and condition calling for settlement in terms of medium of exchange. In striking contrast to activity of cash it is unproductive in nature. Since cash is measure of value, it is not expand to grow unless it is converted in to other properties. Excessive balance of cash on hand is often referred to as "idle cash ". To be most useful to a business enterprise, cash must be kept moving". (*Simon and Kerrenbrock; 1964:192*)

"Net working capital is the measure of liquidity, which is defined as an adequacy of near term cash to meet the firm's obligation. The highly liquid firm has sufficient cash to pay its bill at all time. An illiquid firm is unable to pay its bills when due. The investment of excess cash, minimizing of inventory, speedy collection of receivables and elimination of unnecessary and costly short term financing all contribute to maximizing the value of firm. In a periled of high interest rate, customer may be slow in paying their bills and that will be cause an increase in receivable. If the level of cash is linked to the level of sales variable working capital may be changed". (*Hampton;1989:177*)

"Cash management is one part of the key areas of working capital management. A part from the fact that is the most liquid current asset, cash is the common denominator to which all current assets can be reduced because the other major liquid assets, i.e., receivables and inventories get eventually converted into cash; this underlined the significance of management. There are detail accounts of the problem involved in managing cash, i.e., motive for holding cash objective of cash management, factors determining cash needs, cash management models, cash budgets basic strategies for efficient management of cash, and specific technique to manage cash subsequently". (*Khan and Jain; 2003:18.1*)

"If cash holding is bad for inefficient corporation, cash shortage is dangerous for efficient corporations. As for inefficient corporations, it does not matter whether cash increases or decreases if they are not in a position to utilize them. But efficient corporation due to undertaking of more operations need more cash besides having profit". (*Shrestha; 1980:169*)

"Cash management involves managing the monies of the firm to maximize the cash availability and interest income to 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 government realizes collected fund from the firm as an amount payable or accruals. All activities between these two points fall within the realm of cash management. The firm's decision about when to pay its bills involves account payable and accrual management. He again described an idea of effective collection and disbursement so that maximum cash is available. Collection can be accelerated by means of concentration banking, lock-box system and certain other procedures. Disbursement should be handled to give maximum transfer flexibility and the optimum timing of payment, being mind-full, however, of supplier relations. Methods of controlling disbursement i.e. electronic fund transfer is becoming increasingly important, and most corporation use such transfer in use way or another". (*Van Horne; 2002:345*)

"Cash is often called 'non earning assets'. It is needed to pay for labor and raw materials, to buy fixed assets, to pay taxes, to service debt, to pay dividend and so on. However, cash itself earns no interest. Thus, the goal of the cash manager is to minimize the amount of cash and the firm must hold for use in conducting its normal business activities, yet, the same time, to have sufficient cash (i) to take trade discount, (ii) to maintain its credit rating, and (iii) to meet unexpected cash needs". (*Brigham, Gapenski and Ehrhardt; 2001:796*)

"Cash includes coins, currencies, cheques hold by a firm, and balances in its bank account. This money is immediately useable to pay bills. Some times "near cash items" are also included in cash, e.g., marketable securities. If the firm has excess cash, it may decide to convert it to short term investments. The financial manager will purchase low risk, high liquidity money market instruments that can be converted back to cash without delay if the need arises. The securities provide a small profit on cash that may not be needed immediately for the firm's operation. These securities are widely used as short term investment by the firm in developed countries. Each securities offers different characteristics that make it suitable for different firms .He said cash management is also called management of money position because cash includes not only the cash or currency in hand but also the readily convertible securities or other near cash items, e.g. Time and demand deposits, readily available credit and so on. The concerning area of cash management are management of cash flows into and out of the firms, management of cash flow within the firm and management of cash balance held by the firm at a point of time". (*Pradhan; 2004:310*)

"Cash management is a broad term that refers to the collection, concentration, and disbursement of cash. It encompasses a company's level of liquidity, its management of cash balance, and its short-term investment strategies. In some ways, managing cash flow is the most important job of business managers. 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. Obviously, the prospect 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." (<http://www.answers.com/topic/cash-management>)

Cash management involves the following aspects: (*Maheshwari&Mittal;2003:114*):

- i. Cash Planning
- ii. Controlling Cash Inflows
- iii. Controlling Cash Outflows
- iv. Determining Optimum Liquid Balance
- v. Investing Surplus Cash

All the above aspects have been explained hereunder, in detail.

### **2.1.2 Cash Planning:**

Cash policies and procedures are to be formulated with a view to satisfy different motives for holding cash, Normal cash requirements as well as requirements of cash for abnormal or irregular reasons are to be provided for. The nature of the business, credit position, the amount of sales, time required in conversion of accounts receivable etc determine the normal cash requirement of firm. On the basis of past experience, Pro forma balance sheet cash balance required for the future may be projected. Cash forecasting may be prepared for a short-term as well as a long-term period to estimate the requirements or cash. Cash budget is a summary statement of the firm's expected cash inflows and outflows over a projected time period. The projected time period may be a year, a quarter, a month, a week, or even a day-it depends upon the nature of the business and the status of the firm's cash position. Cash budget throws light not only on the amounts of inflows and outflows expected during a budget period, but also helps managements in determining the future cash needs, in planning financing of these 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 loans and if cash surplus is pointed out, it may be managed by investing the amount in readily marketable securities.

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

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

### **2.1.3 Controlling Cash Inflows:**

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

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

Following techniques are considered to be useful to accelerate the collection:

#### **A. Concentration Banking**

To speed up collections, collections should be decentralized as far as possible. If, instead of one collection centre, there are a 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 customers is reduced. Customers of a particular region may be directed to deposit/remit their payments to a collection centre will deposit the payments received in the local bank regularly (may be daily), which is generally at the firm's head office. This concentration bank or central

bank can get the payments by telegraphic transfer or telex, as per the 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 payments to the collection centre. It further accelerates the process of collection because of the reduction in the mailing time. The advantage of system of decentralized collection is two-fold:

- i. The mailing time is reduced, because the bills are prepared by the local collection centers and sent by them to the customers. Further, if the collection centers collect the payments by themselves, the time required for mailing is reduced on this account also.
- ii. Collection time is reduced, since the payments collected are deposited in the local bank accounts. The funds become useable by the firm immediately on hearing from the collection centre about the amount being deposited in the local bank account.

## **B. Lock Box System**

The system is a further improvement over the concentration banking system in the matter of accelerating the cash inflows. 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 cheques that would be deposited under alternative plans. In this regard operations research techniques have proved useful in the location of lock box sites. A post office box is hired by the firm at each collection centre and the customers are instructed to mail through remittance of the box. The remittance is picked up by the local bank directly from the post office box (i.e., lock box) as per the instructions given by the firm. The bank can pick up the mail several times a day and deposit the cheques in the amount of the firm. A record is kept by the bank regarding the cheque deposited and is sent to the firm as and when required. The advantages of such a system are as under:



- i. The cheques are deposited sooner than if they were processed by the firm prior to deposit thus the time lag between the receipt of cheques by the firm and the actual deposit thereof at the bank is eliminated.
- ii. The firm is freed from the responsibility of handling and depositing the cheques. The main disadvantages of such a 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. Thus, the appropriate rule for deciding whether to use lock-box system or not is to compare the added cost of the most efficient system with the marginal income that can be generated from the released funds. If costs are less than income, the system is profitable, if not, the system is not a profitable one.

### **C. Collections through Messengers**

Certain firms like to send messengers at the places of customers to collect the payments. It certainly reduces the mailing time but increases the costs of collection in terms of the traveling costs of messengers. To conclude, whatever system of speeding up collections is adopted, the costs are to be compared with the benefits derived there from. In case the benefits of a particular system exceed the costs on a comparative basis, the same may be recommended by the finance manager for adoption by the firm.

#### **2.1.4 Controlling Cash Outflows**

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

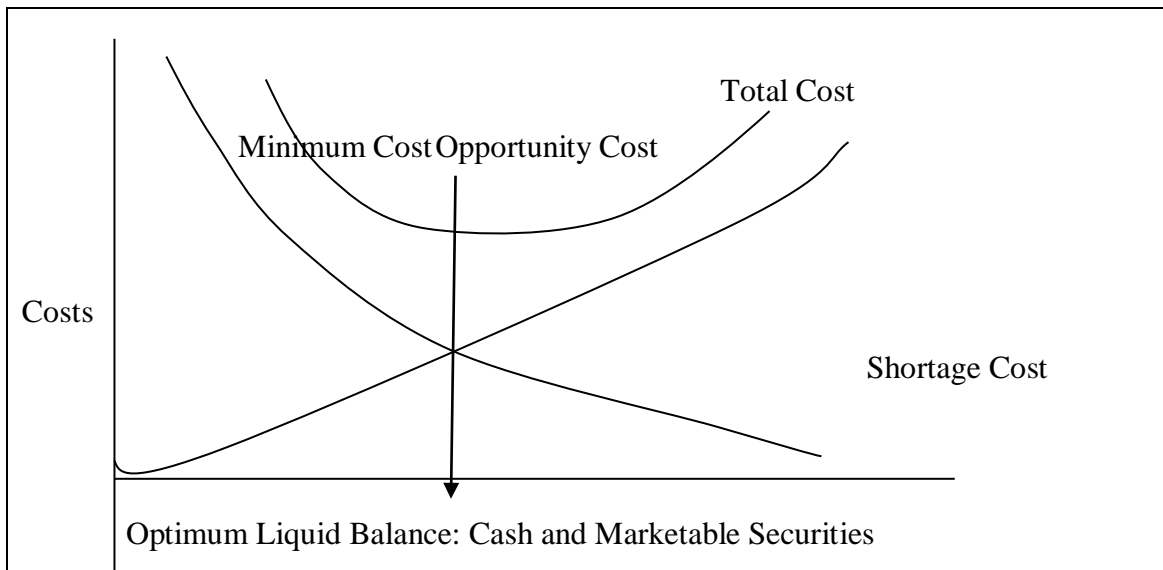
- i. Centralized payments- Centralized payment system is the most advantageous methods of slowing disbursements. The payment should be through a single account maintained at the company's headquarters.
- ii. Paying the float- 'Float' is the lag between the time the cheque is written and the time the firm's bank receives it. A firm 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 a few days . Moreover, after presentation to the bank, the bank would send the cheque for collection, which would also consume some time. The time by which firm's bank receives the cheque for payment can be used by the firm for utilizing fund for business purposes and exactly on the time when the payment has to be made by the bank the amount may be deposited in the bank by the firm. In case the period of time gap can be accurately estimated by the financial manager, the firm can certainly earn during the float period. However, the game is a risky one and should be played with caution.
- iii. Payment on due dates only- Payment should be made on the due dates, not before. For maximum use of cash, if cash discount is more lucrative, payments may be made early also depending upon the availability of funds. Delaying payments beyond the due date cannot be favored at all since the credit rating of the firm is endangered.

### **2.1.5 Determining Optimum Liquid Balance**

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

**Figure: 2.2**  
**Optimum Liquid Balance of Cash**



(Source: Maheshwari and Mittal; 2003: 114)

### 2.1.6 Investing Surplus Cash

Cash not required of short durations can be invested in near-cash assets, i.e.; marketable securities which are readily convertible in to cash. Even though cash is temporarily ideal; it should not be kept so because if the firm has an opportunity to earn interest through investing it in marketable securities, why should it not avail of the same. The criterion for selecting securities may be the followings:

- i. **Marketability:** The firm must be able to sell its holdings and realize cash as and when required. The securities must be readily marketable.
- ii. **Maturity:** The maturity period of the securities should be short; otherwise, the company might suffer losses on account of getting the funds pre-maturely released. The period should be selected according to the time for which the cash would remain surplus otherwise.

- iii. **Risk of Default:** The investment should not be risky in the sense that if it depreciates in safety value, the firm will be financially embarrassed.
- iv. **Yield:** Investment should be in such securities which yield the highest return. However, safety should not be sacrificed at the expense of yield.

"How much amount should be invested in marketable securities and when should a security transaction take place is a crucial problem before the financial manager. If the amount and the timing of transactions can be determined, the firm can minimize the costs of maintaining liquid balance."

### **2.1.7 Principle of Cash Management**

The size of cash balance in the hand and in the account to be maintained depends on the behavior of the operating cash flows of the firms. Each business operation is unique in the matter of cash collection and disbursement, as such, a firm needs to follow cash management strategies based on its own financial strength and objective in the matter of cash management, financial manager are mainly concerned with the -

- i. management of cash receipt
- ii. management of disbursement
- iii. minimization of cash balance
- iv. use of most inexpensive source of financing for cash balance
- v. investment of excess balance of cash

The standard principles of cash management are as follows: (*Pradhan; 1995: 158*)

- i. **Collection Strategy:** To collect account receivable as soon as possible without annoying and losing potential customers by establishing a system of lock boxes, electronic fund transfer, preauthorized checks, and deposit concentration.
- ii. **Credit Period:** Use credit period on accounts payable as long as permitted without damaging the firm's credit rating by establishing controlled disbursement system.
- iii. **Cash Management Models:** Minimize cash balance without adversely affecting the business operation by following the techniques of cash balance management such as Baumol and Miller Orr-models.

- iv. **Balance between Cost and Risk:** Manage most inexpensive source of financing for meeting short term cash deficiency by optimally balancing between cost and risk.
- v. **Cash Surplus:** To invest short term excess cash in most efficient market portfolios of securities such money market instruments.

### **2.1.8 Motives for Holding Cash**

There are three motives for liquidity: the speculative motive, the precautionary, and the transaction motive: (*Maynard; 1936: 170*)

The term with reference to cash management is used in two senses. In a narrow sense, it is used broadly to cover currency and generally accepted equivalent of cash, cheques, draft and demand deposit in bank. The broad view of cash is also includes near cash assets, such as marketable securities and time deposit in banks. The main characteristics of these are that they can be really sold and converted into cash. They served as reserve pool of liquidity that provides cash quickly when needed. They also provide a short term investment outlet for excess cash are also useful for meeting planned out flow of fund. Irrespective of firm in which it hold a distinguished feature of cash as an asset, is that it has no earning power. Cash does not earn any return, why it is hold? There are four primary motives of cash balance, these are:

#### **a) Transaction Motive:**

This refers to holding of cash to meet routine cash requirement to finance the transaction which a firm carries in the ordinary course of business. A firm enters in to 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.

#### **b) Precautionary Motive:**

The cash balance hold in reserves for random and unforeseen fluctuation in cash flows are called as precautionary balances. In-other word precautionary motives of holding

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

**c) 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 in that firm must make provision to tide over unexpected contingencies, the speculative motive represents a positive and aggressive approach. The firm's aim to exploit profitable opportunities and keep cash in reserve does so. The speculative motive helps to take advantage of-

- i. An opportunity to purchase raw materials at a reduced price on payment of immediate cash.
- ii. A change to speculate on interest rate movement by buying securities when interest rates are expected to decline.
- iii. Delay purchases of raw materials on the anticipation of decline in prices, and
- iv. Make purchases at favorable prices.

**d) Compensating Motive:**

It is to compensate banks for providing certain services and loans. Usually, clients are requested to maintain a minimum balance of cash the bank. Since this balance cannot be utilized by the firm for transaction purpose, the banks themselves can use the amount to earn a return. Such balances are compensating balance. Compensating balance is also required by some loan arrangement between a bank and its customer. During periods when the supply of credit is restricted and interest is rising, banks require a borrower to maintain a minimum balance in his account as a condition precedent to the grant of loan. This is presumably to compensate for a rise in the interest rate during the period when the loan will be pending.

"Of four primary motives of holding cash balances the two most important are transaction motive and the compensation motive. Business firm do not speculate and need not have speculate balances. The requirement of precautionary balances can be met out of short term borrowing". (*Khan and Jain; 2003: 18.9*)

### **2.1.9 Objective of Cash Management**

The main objectives of cash management are to determine the optimal cash balance which is neither excessive nor inadequate, and to ensure that the optimal cash balance is maintained all through; Cash should not remain idle unnecessarily, and simultaneously, it should not fall short of the requirements also. For this, the collections and the disbursements of cash are to be managed properly. In case the flow of cash is not even, the cash is to be arranged by rising short-term loans for meeting the payment bills; and in cash the collections have been made but there is no immediate outlet for payment, the idle funds are invested in temporary securities so as to yield some return. Thus, the problem is to manage the cash affairs in such a manner that gives the least possible cost of maintaining cash. The main objective of financial management-maximizing profitability without sacrificing liquidity-should be borne in mind while attempting to manage cash and bank balances. Optimal cash balance does not mean minimum cash balance since minimum cash may lead to shortage of cash and the day-to-day operations of the business may suffer. The level of cash which meets the requirements appropriately and which gives the minimum cost is known as the optimum level of cash.

Cash management covers the management of not only cash but near-cash assets also, e.g., marketable securities and time deposits with banks, because these are readily convertible into cash, As a matter of fact, 'near-cash assets' are to be included under 'cash' for the purpose of cash management since surplus cash is required to be invested in near-cash assets for the time being.

To avail of the profit making opportunities that may arise in future, certain firms may like to hold cash in advance, though, a normal business concern should not indulge in

speculation, yet sometimes it becomes necessary for the firm to keep cash available with this objective in view. For example, if there is a likelihood that material prices will fall down in near future, cash may be withheld for a certain period.

Examples of certain specific advantage of holding cash are as under:

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

### **2.1.10 Factors Determining Cash Needs**

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

#### **a) Synchronization of cash Flow**

With a perfect synchronization of cash inflows and out flows and a higher degree of predictability, cash balance could be held to low levels. An example of synchronization demonstrates low cash flows can be improved through more frequent requisitioning of fund to divisional offices from the firm's central office. "If funds are requisitioned once a month, we may now explore the possibility of requisitioning of funds on fortnightly, or weekly of daily basis, Moreover, effective forecasting can be achieved, it will enable the firm to economic on the amount of money it must borrow and thereby keeping interest expenses to a minimum. It is necessary to understand now that there are different types of float. We have seen that the float is the different between book cash and bank cash, representing the net effect of changes in process of clarity. The first types of float are disbursement float. As we write check, it declares book balance but does not immediately change available balance. Similarly, the collection float refers to



the reset of cheque received, which increases book balance but not immediately change available balance. The net float is the overall different between the firm's available and its book balance." (*Pradhan; 2004: 187*)

#### **b) Short Cost**

Another general factor to be considered in determining cash need is the cost associated with a short fall in the cash needs. The cash forecast presented in the cash budget would reveal period of cash shortages. In addition, there may be some unexpected short fall. Every shortage of cash, whether expected or unexpected involved a cost depending upon the severity, duration and frequency of the shortfall and how the shortage is covered. Expenses incurred as a result of shortfall are called short costs. "Following are included in the short cost: (*Khan and Jain; 2003: 18.4*)

- a. Transaction cost associated with raising cash to tide over the shortage, this is usually the brokerage incurred in relation to the sale of some short term near cash assets such as marketable securities.
- b. Borrowing cost associated with borrowing to cover the shortage these include items such as interest on loan, commitment charge and other expenses relating to the loan.
- c. Loss of cash discount, that is, a substantial loss because of temporary shortage of cash.
- d. Cost associated with deterioration of the credit rating which is reflected a higher bank charges on loans, stoppages of supplies, demand for cash payments, refusal to sale, loss of image and the attendant decline in sales and profits.
- e. Penalty rates by bank to shortfall in compensating balances

#### **c) Excess Cash Balance Cost**

"The cost of having excessively large cash balance is known as the excessive cash balance cost. If large funds are idle, the implication is that the firm has missed opportunities to invest those funds and has thereby lost interest which it would otherwise have earned, this loss of interest is primarily the excess cost". (*Khan and Jain; 2003: 18.5*)

#### **d) Procurement and management**

"There are the cost associated with the establishing and operating cash management staff and activities. They are generally fixed and are mainly accounted for by salary, shortage, handling of securities and so on". (*Khan and Jain; 2003: 18.5*)

#### **e) Uncertainty and Cash Management**

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

"The impact of uncertainty on cash management can, however, be mitigate through -  
(1) improved forecasting of tax payments, capital expenditure, dividend, and so on: and  
(2) increased ability to borrow though over draft facility". (*Khan and Jain; 2003: 18.5*)

### **2.1.11 Techniques for Effective Cash Management**

There various tools and technique are applied for effective and efficient management of cash. Various techniques for cash management are discussed as follows: (*Pandey; 1997: 914*)

#### **a) Cash Planning**

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

#### **b) Cash Forecasting and Budgeting**

Cash budget is the most significant device to palm for and control cash receipt and payment, a cash budget is a summary statement of the firm's expected cash inflows and outflows over a projected time period.

Cash forecast are needed to prepare cash budget. Generally forecasts covering period of one year or less are considered as short term forecast. The important functions of carefully developed short term forecast are to,

- i. Determine operating cash requirement
- ii. Anticipate short term financing, and
- iii. Manage investment surplus cash.

**Methods of Cash forecasting are:**

1. **Receipt and Disbursement Method-** The prime aim of receipt and disbursement forecast is to summarize these flows during a predetermined period. In cases of these companies where each items of income and expenses involve flows of cash; this method is favored to keep a close control over cash.
2. **Adjusted Net income Method-** This method of cash forecasting involves the tracing of working capital flows. It is same time called the sources and uses approach. There are two objectives of the adjuster net income method, They are to project company's need for cash at a future date and to show whether the company can generate the required fund internally, and if not how much will have to be borrowed or raised in the capital market. It is a projected cash flow statement based on perform financial statement, one popularly used method of projecting working capital is to use ratios relating account receivable and inventory to sales.
3. **Sensitivity Analysis-** One useful method of getting insights about the variability of cash flow is sensitivity analysis. Cash budget can be prepared under three sales condition, they are optimistic, most probable and pessimistic. Knowledge of the outcome of extreme expectation will help the firm to be prepared with contingency plans. A cash budget prepared under woe condition will prove to be useful to management to face these circumstances.
4. **Long Term Cash Forecasting-** Forecasting those extending beyond one year are considered long term. Once a company has developed long term cash

forecast, it can be used to evaluate the impact of say, new product development or plan acquisition on the firm's financial condition three, five or more years in the future. The major uses of long term forecasts are:

- a. To indicate as company's future financial needs especially for its working capital requirement.
- b. To evaluate proposed capital projects. It pin pints the cash required to finance these project as well as the cash to be generated by the company to support them.
- c. To improve corporate planning. Long –term cash forecast compel each division to plan for future and no formulate project carefully.

#### **c) Managing the Cash flows**

The flow of cash should be properly managed. The cash inflows should be accelerated while, as far as possible, the cash out flow should be decelerated.

#### **d) Optimum Cash Level**

The firm should decide about the appropriate level of cash balances. The cost of excess cash and danger of cash deficiency should be matched to determine the optimum level of cash balances.

#### **e) Investing surplus cash**

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

## **2.2 Review of journals and articles**

Acharya,(1999), in his article,"*Dursanchar Ko Bartaman Awastha ra Nijikaran*" has suggested to utilize its fund rather than accept high interest bearing loans for capital investment, since the rate of earning in liquid fund is less than the rate of interest it pays for the loan.

Acharya,(2000), in an article "*Profitability Structure of NTC*" suggested to utilize its internal resource. He writes "It has become possible to maximize profit utilizing internal resources with minimum cost. In other hand, liquidity position of the corporation is quite high as it keeps capacity to pay of whole debt at once if the circumstances so required. Keeping in view the increasing services it can be expected that the further profitability trend will get improve furthermore in comparison to current trend provided the revenue structure from national and international service remain within a certain limit at unchanged tariff situation."

Pokhrel,(2005), in his article "*Revenue Collection in Nepal Telecom and strengthening it in future*" shows Nepal telecom standard cash collection/revenue ratio has been taken as 98% through some portion of cash collection during the year may pertain to previous years. But the result shows the actual cash/revenue percentage fluctuated from the standard.

Poudel,(2010),"*Sana tatha kutir udhyog ko arthik byawasthapan*" reveals that cottage and small industries department has big amount of expenses as uncertified which shows lack of responsibility in financial aspect by the public enterprises.

The above review of various journal and articles related to working capital and cash management reveals the poor management of working capital in Nepalese PE's.

### **2.3 Review of Thesis**

In this section an attempt has been made to review some thesis related to cash management. Seven theses have been found which are written on cash management in different categories.

Bajracharya, (1990), has studied on "*Cash Management Practices in Nepalese Public Enterprises.*" He has taken 18 enterprises as a sample.

The objectives of the study are as follows:

1. To study the method of cash management practice adopted in Nepalese public Enterprises.

2. To study the cash planning and cash budgeting system, policies of debt collection.
3. To Study receivable management system of the public enterprises.
4. To observe liquidity position of Nepalese PE's.
5. To study the financial health of Nepalese Public enterprises.
6. To provide some useful recommendations for the effectiveness of cash management system in Nepalese Public enterprises.

Major findings of study are -

1. Cash management in public enterprises is primarily based on the traditional practices. Lacking in a scientific approach, more serious aspects of cash management has been the any formalized system of cash planning and cash budgeting in many of enterprises, although the executive of some enterprises do have the practices of forecasting cash requirements on a formal basis.
2. Modern practices with respect to debt collection, monitoring the payment behavior of customers and relevant banking arrangement in connection with collection of receivables has been virtually ignored in many enterprises.
3. 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 payment to creditors.
4. By and large most enterprises have periodic accumulation of surplus cash and corresponding cash shortage from time to time. However, on of the enterprises considered the implication of holding idle cash balance and few took on to account the potential benefit of investing surplus in marketable securities. These which failed to consider the cost of administering such investments.
5. There had been wide variations overt-time in the state of financial health of enterprises in terms of the composition of current assets to current liabilities as revealed by the relevant financial ratios.
6. Neither interest rate nor the rate of inflation had any effect on the cash balance. Further there was very little evidence of effect on the cash balance holding in most case.

Pradhan, (1997), conducted a research, "*A Study on Cash Management of Salt Trading Corporation Ltd.*" The objectives of the study are as follows:

1. To study the overall financial position of STCL.
2. To study existing cash management system in STCL.
3. To access the credit policy adopted in STCL.
4. To provide some suggestion to improve the cash management for future.

Major findings of study are -

- 1 STCL could not make the best use of available cash balance prudently.
2. The cash collection efficiency in this corporation is very low.
- 3 The collection of trade credit in the corporation is low during three years of study period.
4. Management has taken liberal credit policy to sales of goods. Hence the cash and bank balance of study period is minimum Account Receivables (A/R).
5. 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.

Sainju, (2003), conducted a research "*Cash Management System in RDL.*" The objectives of the study are as follows:

1. To study cash flow and liquidity position of the organization.
2. To study the cash management system of the organization.
3. To throw light on cash budgeting and profitability position of RDL.

Major findings of study are

1. Overall cash management practices have been found disappointing.
2. Overall liquidity position of the firm has been found moderately dissatisfactory.
3. Overall, yearly cash inflow and out flow in RDL is not properly managed.
4. Surplus cash hasn't been properly employed to earn return by investing in short term investment opportunities.
5. Profitability has been found in very weak position.

6. Overall cash budgeting practice of RDL is very poor.

Bhatt, (2006), has conducted a research on “*Revenue Planning and Cash Management of Public Utility in Nepal (A case study of Nepal Telecom)*”.

The objectives of the study are as follows:

1. To analyze the gap between budgeted and actual revenue and its trend.
2. To examine cash collection and disbursement.
3. To review cash flow from operating, financial and investing activities.
4. To have information, control and security over cash balances and payment system

Major findings of study are -

1. The lack of accurate and proper sales forecast is one of the important contains that affect the financial performance of the company. In Nepal Telecom, there is consistency between planned sales line and actual sales. The analysis of distributed sales line and revenue shows that the achievement is highly consistent. So, if the company forecasts the expected sales accurately, it can manage the various activities accordingly.
2. Sales budget shoes ISD sector’s sales revenue is main sources of Nepal Telecom, which contributes more than 40% in average.
3. Because of high demand of telephone line there exist small gap between actual production and actual sales in lines. The local calls are increasing at this stage but the revenue per line is decreasing. It is due to bad governance and slow economic growth.
4. Correlation and coefficient value shows that there are positive correlations between budgeted and actual sales units and Rs, by the regression line, it is clear that future revenue will increase with compare to budgeted if other things remaining same etc.

Koirala, (2006), conducted a research on "*Cash management in context of Nepal Telecommunication.*" The objectives of the study are as follows:

- 1) To identify the sources and utilization of cash.



- 2) To examine the existing internal control policy of cash transaction of NTC.
- 3) To identify the shortage or excess of cash in the company and the procedure of financing for the shortage and investment of excess cash.
- 4) To study the liquidity position of the company.

Major findings of study are-

- 1) Cash turnover analysis shows that the company's cash turnover ratio is in decreasing trend. In addition, the turnover ratio was too low, which indicates that the company is unable to utilize its idle cash in generating sales. The company's position of liquid cash that remained idle was too high. So there was lack of proper management of idle cash in the company towards profitable sector which could have yield more revenue.
- 2) The absolute cash ratio for the five years was 1.03 on an average. It was found that the cash position of the company was very strong over the study period. The cash ratio was in slightly increasing trend. Only cash was almost sufficient to pay its current liabilities in the study period except in the year 2056/57. So it shows that cash was managed properly which may yield more return to the company.

From the analysis of cash to total assets ratio it comes to know cash is major component in the pie of total asset. It shows that cash is kept idle without investing in appropriate sector. On an average, the cash portion of the total assets comprised of 31.60%. It affects profitability of the company.

- 3) Interval measure shows that, the company's annual closing cash balance (in million) was Rs.3905.55, Rs.4596.90, Rs.7007.92, Rs.8242, and Rs.10097.73 in the fiscal years 2055/56, 2056/57, 2057/58,2058/59 and 2059/60 respectively. Similarly the average daily operating expenses (in million) were Rs, 1.99, Rs.2.35, Rs3.15, Rs.3.43 and Rs.4 in the respective fiscal years. The company's annual closing cash balance was

- 4) Under liquidity analysis, current ratio and liquidity ratio were used. A current asset of the company over the study period was good enough to meet the current liabilities. And the major portion of current assets comprised of cash. The position of highly liquid assets to meet the current liabilities of the company was found more than sufficient. It was because of the huge portion of cash in the current assets.
  
- 5) Cash flow position of company in different fiscal year was discussed in actual cash flow analysis portion of the study. From F/Y 2056/57 to 2060/61 cash inflow from operating activities was increasing year by year. However cash inflow position from operating activities in year 2058/59 was significantly lower in comparison to other years. Cash outflow in investment activities was high in year 2058/59 and 2059/60. In rest of the study period there was cash outflow in investing activities but not as much as in the year 2057/58 and 2059/60. This shows that company was extending its services and project. Again it shows that company was in growing stage. Company had negative cash flow in financing activities from year 2056/57 to 2060/61 that means it was paying its long-term liabilities. Company was paying back its loan and investing its fund simultaneously, which became possible because of retained earnings. Cash from operating activities was process will be lengthy due to compliance of time consuming rules and procedure as prescribed. The policy study shows that the company is still suffering from centralization problem of management.

Bhandari, (2009), has conducted a research on "*Cash management in public enterprises of Nepal- A case study of Nepal Telecom Ltd.*" The objectives of the study are as follows:

- 1) To examine and critically analyze the existing cash management practice in NTC.
- 2) To assess the revenue generation practice of NTC.
- 3) To examine the financial performance of the organization.
- 4) To review the cash mobilization practice of the organization.
- 5) To make suggestion for the effectiveness of cash management in NTC.

Major findings of study are-

- 1) NTC has satisfactory liquidity position and it has maintained proper cash and bank balance. The cash and bank balance with respect to current liabilities has been increasing trend.
- 2) NTC has low consistency in cash and bank balance.
- 3) Sales relationship with cash balance is positive.
- 4) Relationship between sales and net profit of NTC is in good condition it has been increased earned profit in each fiscal year and sales has been increasing trend.
- 5) NTC does not follow the periodic performance report.

Gajurel, (2010), conducted a research on “*Cash Management Analysis of Nepal Water Supply Corporation.*” The objectives of the study are as follows:

- 1) To examine the internal control policy of cash transaction in NWSC.
- 2) To analyze the cash flow structure and cash management techniques Practiced by the company.
- 3) To examine the liquidity position of NWSC.
- 4) To study the relationship of cash with other influencing variable of cash management.

Major findings of study are -

- 1) NWSC have not any definite policy regarding how much cash balance to hold in each period. Cash and bank balance hold during the different period of study were observed to be highly fluctuated and thus the fact indicates no definite policy regarding how much balance to be hold in each period. Average cash balance of NWSC during the study period is 265095200.
- 2) There is fluctuations have been observed in cash turnover ratio analysis. The fluctuation of cash turnover ratio is the indication of no definite policy holding cash balance in relation to sales volume, is applied by NWSC. The average cash turnover ratio of NWSC is 2.067.
- 3) Correlation between sales and cash and bank balance has been observed to be

0.607. Generally, it indicates the positive relationship between the sales and cash and bank balance.

- 4) The average current ratio is 1.82, which is normally less than satisfactory level; however satisfactory level is 2:1. Overall, the average ratio signals a little bit unsatisfactory position of the NWSC, which should be little bit above near to 2:1.
- 5) NWSC has been operating in loss in all fiscal year during the study period. In overall, NWSC has been operating under loss and the average net profitability margin has been calculated as -52.46%.
- 6) NWSC has not utilizing its current assets effectively in earning profit. The overall ratios are dissatisfying, indicating loss in each fiscal year. Overall the return on working capital i.e. current asset is disappointing by indicating drastic downfall of the corporation. The average return on working capital has been calculated as 23.13%.
- 7) Cash and bank balances and current liabilities ratio occurred from lower 21.02% to 88.55% which indicate the significant cash balance to meet current obligation. But on the other hand most of the ratios are less than 30% which shows the excess cash and deficit in making payment during the study. It has clearly indicated that NWSC has not been following a systematic cash management practices.

## **Research Gap**

Nepal Telecom has always been customer oriented. Its main objective is to provide the best quality with low cost. And it has retained its fame by its reliable service. Several studies have been conducted for the topic “Cash Management” and the analysis part is done either for the banking sectors or for the insurance. But very few thesis are related particularly to Cash Management of NT. For the analysis, tools mainly the ratios relating to cash are used to show the NT performance. Along with these ratios, the analysis part includes the latest data up to F/Y 2066/67 even the latest data disclosed by NT through its Annual Report . The NT’s Budget Book up to 2066/67 and Budget Policy & Program for F/Y 2066/67 are also used to find more and accurate essence.

Last but not the least, till this date; mostly the old data were analyzed. Technology has been changing very fast and scope of NT is now becoming very wide. The services are not only related with voice or low speed data but also cover the triple play: voice, high speed data and video. Hence, the research with old and obsolete data cannot draw the relevant information. This study is specifically based on the recent data to produce useful findings.

## **CHAPTER – III**

# **RESEARCH METHODOLOGY**

Research methodology is the way to solve systematically about the research problem. Methodology states the method with which data have been extracted and discuss the tool of that have been used in interpretation of such data to fulfill the stipulated objectives.

### **3.1 Research Design**

The research study attempts to analyze the cash management system adopted by NTC. Hence, descriptive as well as analytical research designs have been employed.

Descriptive research is essentially a fact finding approach relative largely to present and abstracting generalization by the cross-sectional study of the current situation.

Analytical approach is followed to parametric and non-parametric test of data. It is the process of micro-analysis and appraisal of the data.

### **3.2 Nature and Sources of Data**

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

- 1 published and unpublished document and annual reports of the company
- 2 Journals, government and non-government publication.
- 3 Other supportive books and websites of related topic.

### **3.3 Method of Data Analysis**

Different financial and managerial tools will be used for the analysis of data. Some inferences and generalizations might also be made in the course of preparation of report as demanded by the situation.

### **3.3.1 Financial Tools:**

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

#### **3.3.1.1 Ratio analysis**

The most important tool of analysis of financial statements is the ratio analysis. It is an expression of the quantitative relationship between two numbers. It helps to diagnose financial health of the enterprises.

##### **1. 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 aspect. Cash means actual cash and bank balance extracted from annual report balance sheet. Current liabilities consist of account payable, current portion of long term loan, other provision, pension fund, subscriber/contractor deposit. Total assets include net fixed assets, investments, and current assets except deferred charges. The ratios which determine the cash position are:

##### **i. Absolute cash ratio:**

Absolute cash ratio indicates the position of cash for meeting current liabilities.

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

##### **Cash to total asset ratio:**

Cash to total assets ratio indicates cash contents in the total investment.

$$\text{Cash to total assets ratio} = \frac{\text{Cash+Marketable Securities}}{\text{Total Assets}}$$

##### **Interval measures:**

It indicates the time period until 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. (*Maheshwari and Mittal, 2003*)

$$\text{Interval measures} = \frac{\text{Cash+Marketable Securities}}{\text{Average daily cash operating expenses}}$$

## **2. Cash turnover ratio**

The ratio of cash in hand and at the bank to net sales is termed as cash turnover ratio or cash velocity. The ratio indicates the efficient use of cash to generate sales. Cash balance should be kept within reasonable limits just as debtor and stock. In theory, the ideal ratio is said to be around 20. (*Maheshwari and Mittal, 2003*).

In case of Nepal telecom, sales indicate total revenue of the year which is categorized as total revenue from telephone, total revenue from telegraph, lease circuit and other.

$$\text{Cash turnover ratio} = \frac{\text{Sales}}{\text{Cash in hand+Bank balance}}$$

A high ratio means relatively small amount of cash which is good because cash involves holding cost. But if overdraft is there, it may not be advisable since interest burden may wipe off the resources in due course of time. A lower ratio indicates greater availability of cash which may not be advisable since it may be remaining idle in the business. However, too high a ratio is also dangerous, as it may be an index of overtrading i.e., doing business with too little cash.

## **3. Liquidity ratio:**

Liquidity Ratios are a class of financial metrics that is used to determine a company's ability to pay off its short-term debts obligations. Generally, the higher the value of the ratio, the larger the margin of safety that the company possesses to cover short-term debts. Common liquidity ratios include the current ratio, the quick ratio and the operating cash flow ratio. Different analysts consider different assets to be relevant in calculating liquidity. Some analysts will calculate only the sum of cash and equivalents



divided by current liabilities because they feel that they are the most liquid assets, and would be the most likely to be used to cover short-term debts in an emergency. (<http://www.investopedia.com/terms/l/liquidityratios.asp>)

A company's ability to turn short-term assets into cash to cover debts is of the utmost importance when creditors are seeking payment. Bankruptcy analysts and mortgage originators frequently use the liquidity ratios to determine whether a company will be able to continue as a going concern. The ratios to test the short term or current solvency or liquidity or financial position of a company are mainly following-

**Current Ratio:**

The ratio of current assets to current liabilities is known as current ratio. Current assets consist of cash and bank, account receivable, investment in Government securities and others, inventory, others (L/C, advance, tax etc.)

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

**Liquid Ratio:**

The ratio derived by relating liquid or quick assets to current liabilities is known as quick ratios. 'Liquid asset' 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. Liquid assets consist of cash and bank, account receivable, investment in Government securities and others.

$$\text{Liquid ratio} = \frac{\text{Liquid assets}}{\text{current liabilities}}$$

**3.3.1.2 Cash Budget Analysis**

Cash budget is a plan of cash flow. It shows the planned cash inflows, outflows, opening and ending position of the cash of the company. Cash budget is not expenses budget. It is a plan of cash flows, effective way to control cash flows, assess cash needs and effectively use of excess cash. A basic objective to plan the cash flows of the company is to determine future borrowing and future investment. Planning cash flows

present the need of cash financing then deficit exists and need of cash investment of profitable use. The cash budget is prepared with the help of other functional budget.

### **3.3.1.3 Actual Cash Flow Analysis**

Cash flow statement signifies the movement of cash in and out of a business concerned. Inflow of cash is known as source of the 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 date to a next date after a gap, usually the accounting period. The main source of cash receipts and channels of payment are found out and recorded 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 span of time. A projected statement will help management to chalk out the detailed plans regarding its working and operation in future. (*Maheshwari and Mittal, 2003*)

### **3.3.2 Managerial Tools**

#### **3.3.2.1 Variation or Difference Analysis:**

Variance is a tools used to determine deviation between budgeted cash expenses and actual cash expenses. Similarly the same tool is used to analyze the difference in budgeted amount of various fiscal years. It shows deviation in budgeted figure and actual figure which helps to draw generalizations.

**3.3.2.2 Mean, Standard deviation and Coefficient of variation:** Standard deviation and coefficient of variation are tools to measure the degree of risk and consistency / fluctuation between budgeted expenses and actual expenses.

#### **3.3.2.3 Internal Control Policy Analysis:**

Internal control policy of the company is analyzed in the study particularly regarding cash control practices. The policy analysis will be of descriptive nature.

### **3.4 Covered Period**

The study examines the available data covered between fiscal year 2061/62 to 2065/66.

## **CHAPTER - IV**

### **PRESENTATION AND ANALYSIS OF DATA**

Presentation and analysis of data is an important stage of the research study. The main purpose of analyzing the data is to change it from an unprocessed form into an understandable presentation. The analysis of data consists of organizing data by tabulating and then placing the data in presentable form by using figures and tables.

The presentation and analysis of data section is the main text of the study. It provides insight into the predetermined objectives of the study. For the purpose of presentation of data, the most recent published financial statements and annual budget reports are used. The collected and tabulated data have been analyzed using different accounting and financial tools. The chapter includes presentation, analysis and interpretation of collected data with organizing sequentially as per the objectives of the study. The policy regarding internal control of cash management is collected and analyzed in this topic.

#### **4.1 Analysis of Cash Balance**

Economic planning and management department of Nepal Telecom demands various proposals of budget along with detail of plan programs from different regional directorates. High level management committee, respective representative, experts discuss on the budget proposals. The budget should be consistent with long term plan (five years plan) of the country on telecommunication sector. After discussion of the proposed budget, the committee approved the proposed budget after certain amendments and correction. Again in the mid of budgeted period, the committee revised the budget.

#### 4.1.1 Approved Cash Budget and Actual Cash at End

**Table 4.1**  
**Approved Cash Budget and Actual Cash at End of NTC**  
**(Rs. ' 000)**

<b>Fiscal Year</b>	<b>Approved Budget</b>	<b>Actual</b>	<b>Difference</b>	<b>% Change</b>
2061/62	5,936,374	9,574,500	3,638,126	38.00
2062/63	3,399,304	12,021,625	8,622,321	71.72
2063/64	6,590,307	14,746,338	8,156,031	55.31
2064/65	6,708,673	16,134,517	9,425,844	58.42
2065/66	12,409,131	18,191,058	5,781,927	31.78
<b>Mean</b>				<b>54.00</b>
<b>S.D. (<math>\sigma</math>)</b>				<b>14.73</b>
<b>C.V.</b>				<b>27.28</b>

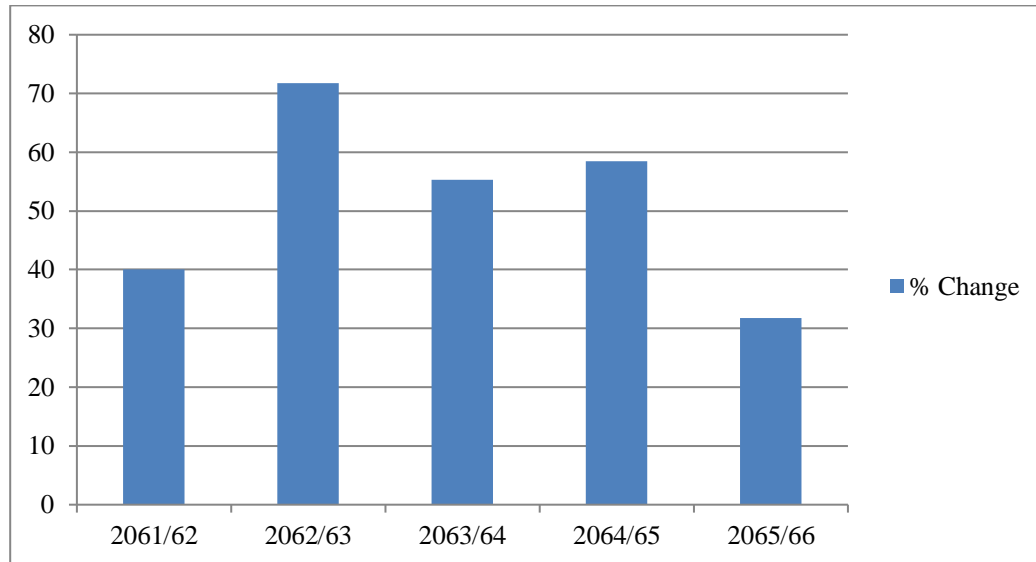
*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The above statistical calculation shows the statistical analysis of Approved cash budget and actual cash at the end fiscal year of Nepal Telecom. Mean is the statistical constant which enables us to comprehend the average value. Standard deviation represents the risk between the budgeted and Actual data. Standard deviation and C.V. measure the dispersion of data from the mean value.

As per the calculation, the value of coefficient of variation of change in approved cash budget is 27.28. This illustrates that the data of table are normally dispersed. The standard deviation between approved cash budget and actual cash at the end of fiscal year is 14.7. This indicates that budgeted & actual data of Nepal Telecom is of low degree of risk.

**Figure 4.1**

**Percentage change in Approved Cash Budget at End of F/Y**



According to table 4.1 and graph 4.1, the actual cash budget is exceedingly high than the budgeted cash budget, which indicates towards the management excellence of Nepal Telecom in regard to cash collection. However, the high degree of deviation also implies the ineffective cash budget estimation technique of the company.

#### 4.1.2 Revised Cash Budget and Actual Cash at End

Table 4.2

#### Revised Cash Budget and Actual Cash at End of F/Y of NTC

(Rs. ' 000)

<b>Fiscal Year</b>	<b>Revised Budget</b>	<b>Actual</b>	<b>Difference</b>	<b>% Change</b>
2061/62	10,655,130	9,574,500	(1080630)	(11.29)
2062/63	8,195,242	12,021,625	3826383	31.83
2063/64	11,030,579	14,746,338	3715759	25.20
2064/65	16,272,489	16,134,517	(137,972)	(0.86)
2065/66	17,787,257	18,191,058	403,801	2.22
<b>Mean</b>				<b>9.42</b>
<b>S.D. (<math>\sigma</math>)</b>				<b>16.36</b>
<b>C.V.</b>				<b>137.67</b>

Source: NTC Budget and Policy Program (2061/62 to 2065/66)

The above statistical calculation shows the statistical analysis of Revised cash budget and actual cash at the end fiscal year of Nepal Telecom.

As per the calculation, the value of coefficient of variation of change in revised cash budget is 137.67. This illustrates that the data of table are highly dispersed. The standard deviation between revised cash budget and actual cash at the end of fiscal year is 16.36. This indicates that budgeted & actual data of Nepal Telecom is of low degree of risk.

**Figure: 4.2**  
**Revised Cash Budget and Actual Cash at End of F/Y**

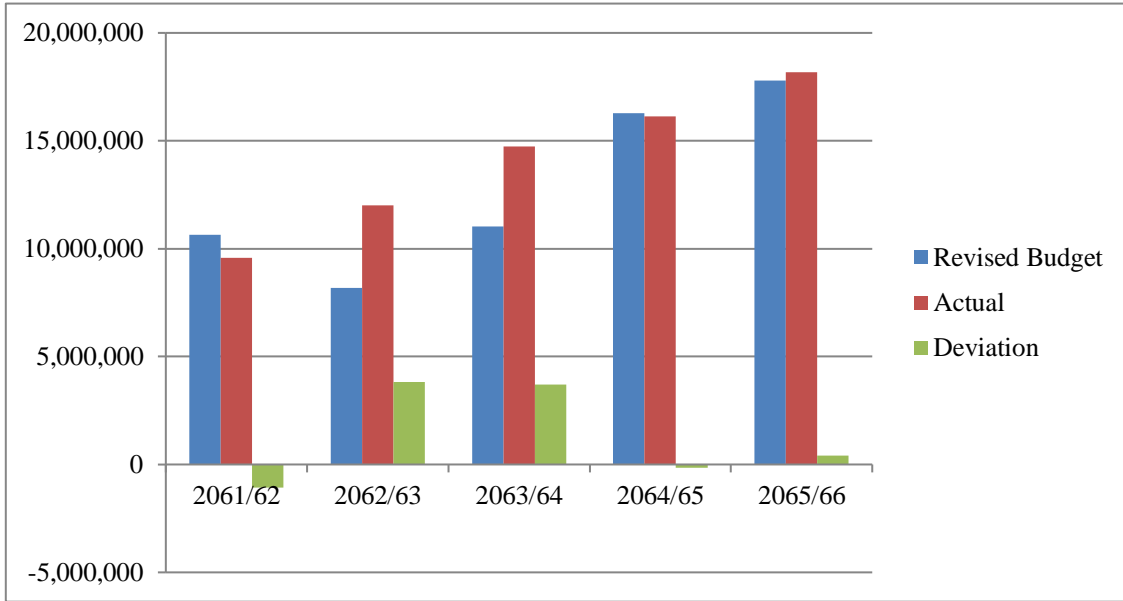


Table 4.2 and graph 4.2 show that the deviation between revised budget and actual budget does not have consistency of direction. In 2062/63, 2063/64 and 2065/66 the deviation is in a positive direction whereas in 2061/62 and 2064/65 the deviation is in a negative direction. It shows insufficient capacity of estimating and setting standards for cash collection.

## **4.2 Shortage or Excess Position of Cash of Approved budget**

### **4.2.1 without considering Opening cash balance**

Nepal telecom prepares deficit budget. Deficit budget indicates shortage of source to cover overall uses of budget. In this portion of study, opening cash balance is not included as sources of total cash.

**Table 4.3**

**Approved Budget Cash Surplus/Deficit Without opening balance of Cash**

(Rs. ' 000)

<b>Fiscal Year</b>	<b>Total Cash Sources</b>	<b>Total cash Uses</b>	<b>Difference</b>	<b>Surplus/Deficit</b>
2061/62	12,870,339	17,763,327	(4,882,988)	Deficit
2062/63	11,912,645	19,168,471	(7,255,826)	Deficit
2063/64	17,858,091	21,952,914	(4,064,823)	Deficit
2064/65	25,847,492	30,169,399	(4,321,907)	Deficit
2065/66	32,519,319	36,382,678	(3863359)	Deficit
2066/67	43,800,544	45,959,120	(2158576)	Deficit

*Source: NTC Budget and Policy Program (2061/62 to 2066/67)*

**Figure 4.3**

**Approved Budget Cash Surplus/Deficit without Previous Cash**

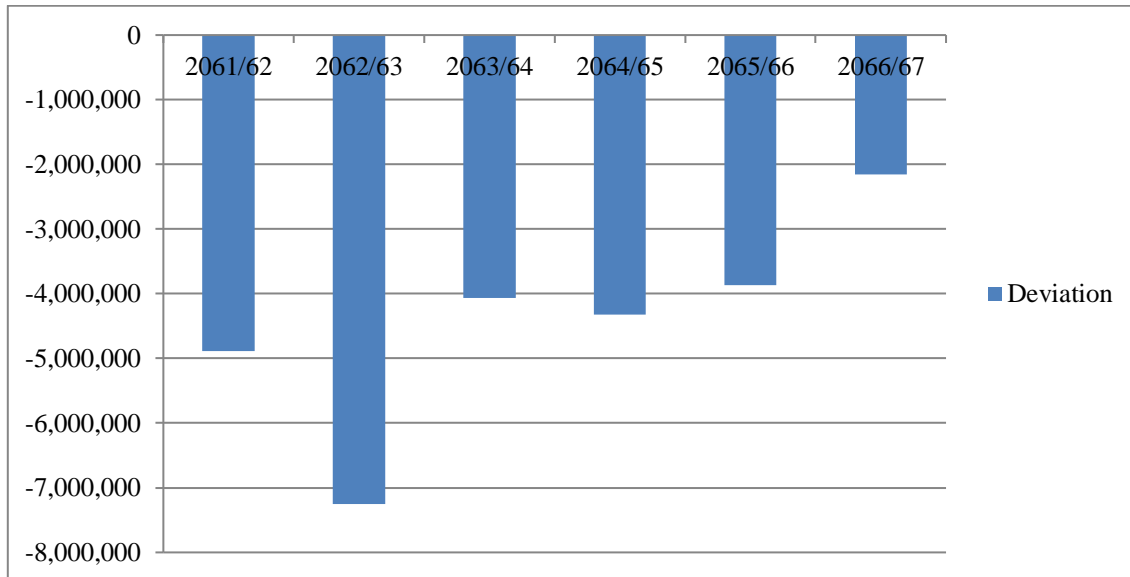


Table 4.3 and graph 4.3 show that throughout the sample time period, the total cash uses has always exceeded the total cash sources. This indicates that the organization is extremely poor in terms of budgeted planning.



**Table 4.4**

**Revised Budget Cash Surplus/Deficit without opening balance of Cash**

(Rs. ' 000)

Fiscal Year	Total Cash Sources	Total Cash Uses	Difference	Surplus/Deficit
2061/62	11,821,612	13,583,968	(1,762,356)	Deficit
2062/63	13,132,546	14,511,804	(1,379,258)	Deficit
2063/64	19,797,607	20,788,653	(991,046)	Deficit
2064/65	24,830,374	23,304,222	1,526,151	Surplus
2065/66	33,953,072	32,300,331	1,652,741	Surplus
2066/67	40,082,392	38,409,316	1,673,076	Surplus

Source: NTC Budget and Policy Program (2061/62 to 2066/67)

**Figure 4.4**

**Revised Budget Cash Surplus/Deficit without opening balance of Cash**

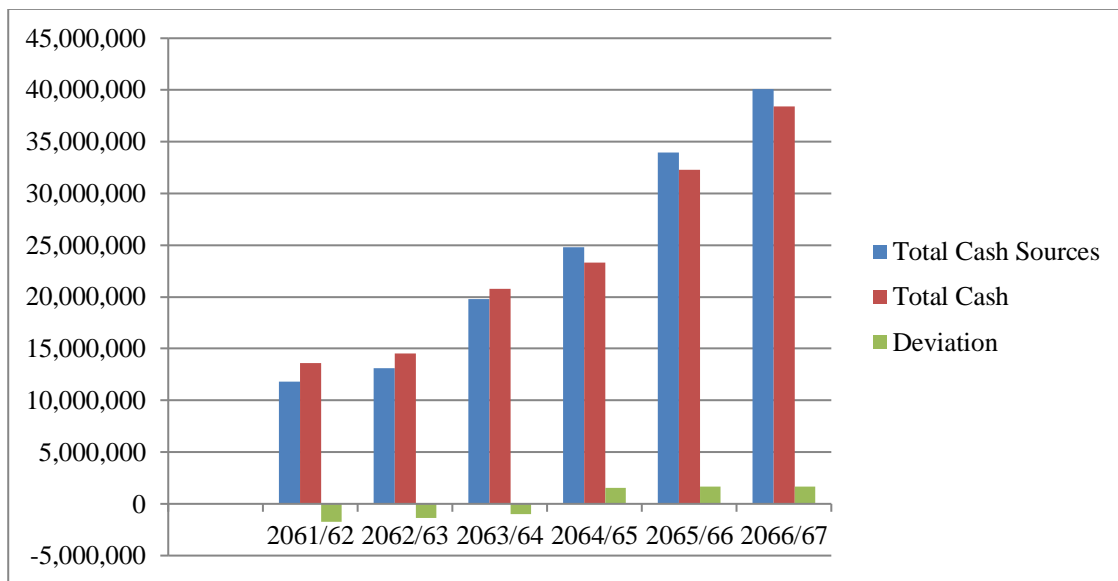


Table 4.4 and figure 4.4 show a gradual trend of improvisation in the revised budget cash surplus/deficit without previous cash. In the first three years of the sample time period (2061/62 to 2063/64), Nepal Telecom estimates suffering from continuous deficit. However, in the latter three years (2064/65 to 2066/67), the organization

believes to enjoy an upward rising surplus. Which shows that over the years Nepal Telecom has succeeded in increasing the amount of budget surplus resulting in no need of financial deficit?

**Table 4.5**  
**Actual Cash Surplus/Deficit Without opening Cash Balance**

(Rs. ' 000)

Fiscal Year	Actual Cash Sources	Actual Cash Uses	Difference	Surplus/Deficit
2061/62	1,215,818	14,444,112	(2,292,294)	Deficit
2062/63	16,510,177	14,063,052	2,447,125	Surplus
2063/64	20,482,552	17,757,839	2,724,713	Surplus
2064/65	23,576,892	2,20,24,505	1552387	Surplus
2065/66	3,54,15,595	33,359,054	2,056,541	Surplus

Source: NTC Budget and Policy Program (2061/62 to 2065/66)

**Figure 4.5**  
**Actual Cash Surplus/Deficit without opening Cash Balance**

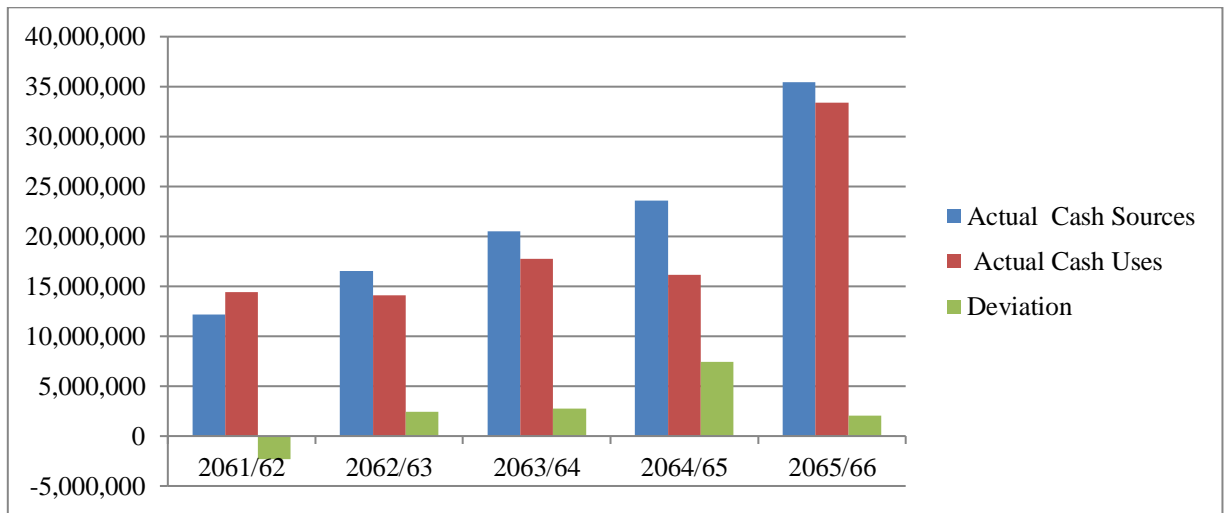


Table 4.5 and figure 4.5 show that in 2061/62 Nepal Telecom's actual cash uses had surpassed its actual cash sources by NRs.2, 292,294. However, over the consecutive latter years, the company experienced an increasing amount of surplus, which is

positive to a certain extent. But, excessive surplus amount indicates that the company has not diverted its cash in-flow in the proper direction as per its budgeted planning. Question about investment of surplus cash and opportunity cost of that surplus amount was not answered by concerned authority. In those idle cash, previous year closing balance cash was not included.

#### 4.2.2 Considering Opening cash balance:

**Table 4.6**

**Approved Budget Cash Surplus/Deficit with Opening Cash balance**

(Rs.'000')

<b>Fiscal Year</b>	<b>Opening Cash</b>	<b>Internal Sources</b>	<b>External Sources</b>	<b>Total Sources</b>	<b>Total Application</b>	<b>Closing Cash</b>	<b>Surplus/ Deficit</b>
2061/62	10,829,362	12770339	100000	12870339	17763327	5936374	(4892988)
2062/63	10,655,130	11912645	0	11912645	19168471	3399304	(7255826)
2063/64	12,021,625	17858091	30000	17888091	21952914	6590307	(4064823)
2064/65	11,030,579	25847492	0	25847492	30169399	6708672	(4321907)
2065/66	16,272,489	32,519,319	0	48,791,808	36,382,678	12,409,131	12,409,130
2066/67	17,787,257	43,800,544	0	61,587,801	45,959,120	15,628,681	15,628,681

*Source: NTC Budget and Policy Program (2061/62 to 2066/67)*

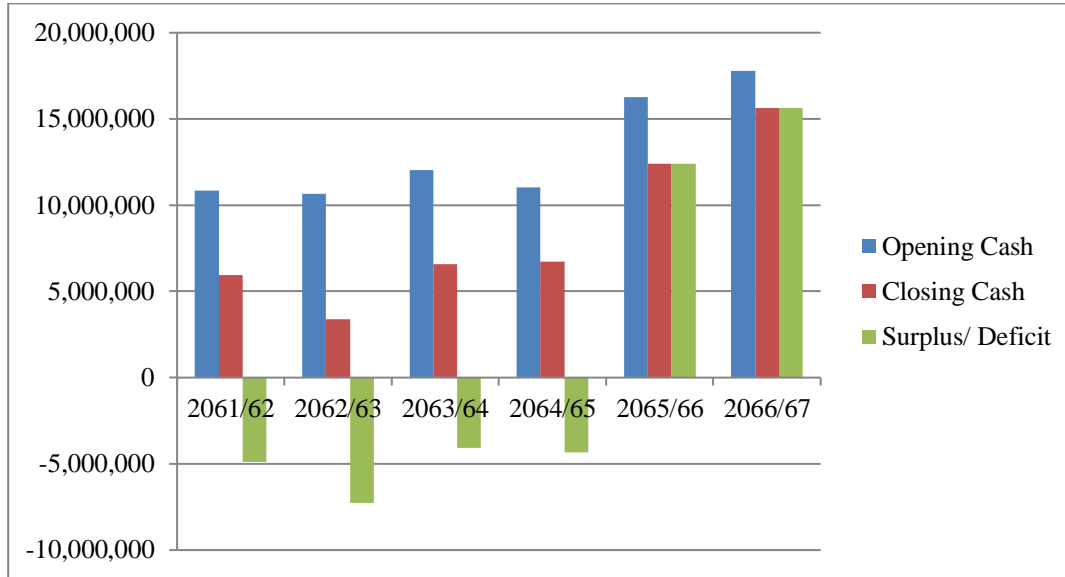
**Figure 4.6****Approved Budget Cash Surplus/Deficit with Opening Cash balance**

Table 4.6 and figure 4.6 show that as per its budget, Nepal Telecom will suffer deficit in 4 consecutive fiscal years from 2061/62 to 2064/65. In 2065/66 and 2066/67 the company believes it will enjoy budget surplus. Total budgeted sources include closing cash balance of previous year, external source and internal source.

**Table 4.7****Revised Budget Cash Surplus/Deficit with Opening Cash Balance****(Rs. '000'**

Fiscal Year	Opening Cash	Internal Sources	External Sources	Total Sources	Total Application	Closing Cash	Surplus/Deficit
2061/62	12,417,486	11,821,612	0	11,821,612	13,583,968	10,655,130	(1,762,356)
2062/63	9,574,500	13,132,546	0	13,132,546	14,511,804	8,195,242	(1,379,258)
2063/64	12,021,625	19,797,607	0	19,797,607	20,788,653	11,030,579	(991,046)
2064/65	14,746,338	24,830,374	0	24,830,374	23,304,222	16,272,489	(1,526,151)
2065/66	16,134,517	33,953,072	0	50,087,589	32,300,331	17,787,257	1,652,740
2066/67	18,191,058	40,082,392	0	58,273,450	38,409,316	19,864,134	1,673,076

Source: NTC Budget and Policy Program (2061/62 to 2066/67)

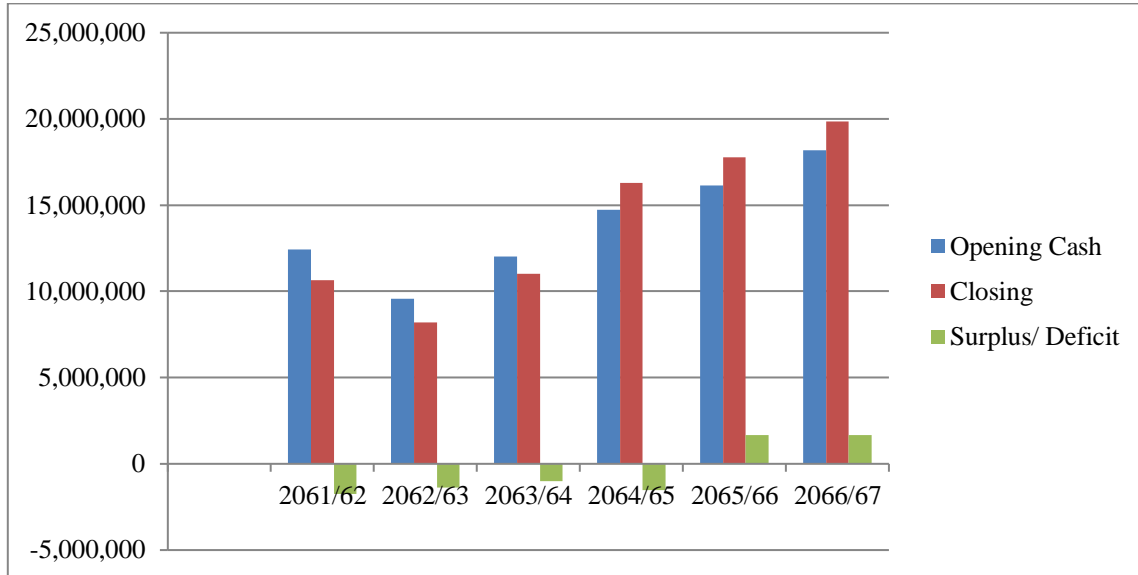
**Figure 4.7****Revised Budget Cash Surplus/Deficit with Opening Cash balance**

Table 4.7 and figure 4.7 show similar indications as that of table 4.6 and graph 4.6. When the budget was revised, there was a continuous deficit upto 2064/65 after which, surplus was experienced. The deficit budget had been prepared just after Nepal Telecom had entered in the market competition.

**Table 4.8****Actual Cash Surplus/Deficit with Opening Cash Balance**

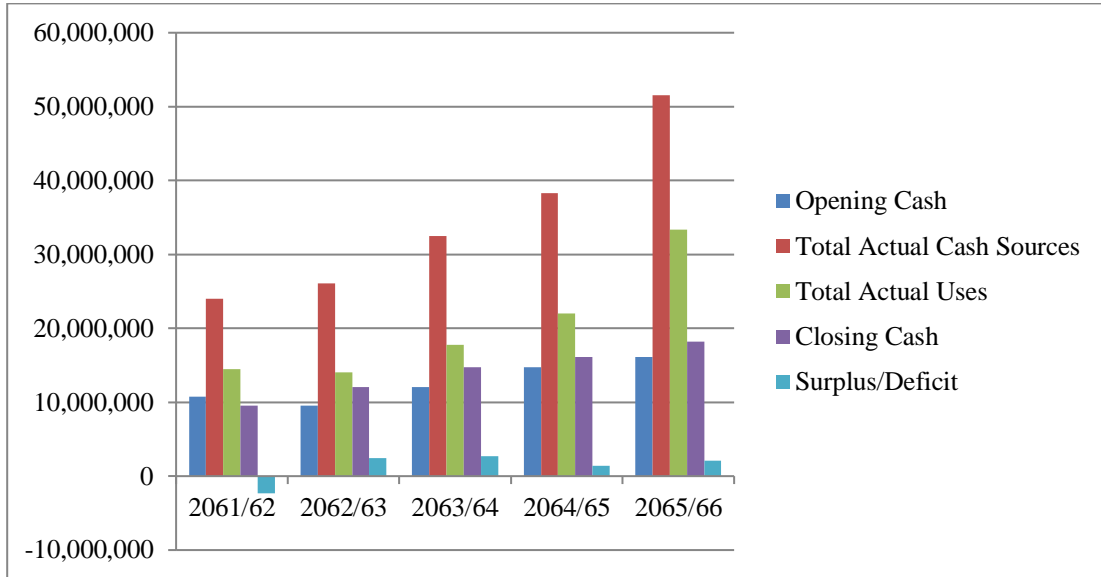
(Rs. '000')

Fiscal Year	Opening Cash	Other (external & internal source) Cash	Cash not incurred	Total Actual Cash Sources	Total Actual Uses	Closing Cash	Surpl (Deficit)
2061/62	10,780,699	12,151,818	1,086,125	24,018,642	14,444,112	9,574,500	(2,292,294)
2062/63	9,574,500	16,510,177	-	26,084,677	14,063,052	12,021,625	2,447,125
2063/64	12,021,625	20,482,552	-	32,504,177	17,757,839	14,746,338	2,724,713
2064/65	14,746,338	23,576,892	-	38,323,230	22,024,505	16,134,517	1,388,179
2065/66	16,134,517	35,415,595	-	51,550,112	33,359,054	18,191,058	2,056,541

Source: NTC Budget and Policy Program (2061/62 to 2065/66)

**Figure 4.8**

**Actual Cash Surplus/Deficit with Previous Cash Balance**



The table and figure 4.8 above show there was surplus of fund in each year except in F/Y 2061/62. The trend line shows an upward slope, which is a positive sign of improvement.

### 4.2.3 Analysis of Source of Financing

#### 4.2.3.1 Internal source of cash

**Table 4.9**

**Statement showing total internal source of financing as per approved budget**

**(Rs.'000)**

<b>Year / Description</b>	<b>2061/62</b>	<b>2062/63</b>	<b>2063/64</b>	<b>2064/65</b>	<b>2065/66</b>
Domestic revenue	6801692	6832989	8836249	1498797 6	1940493 3
Inter administration	1470000	1215650	1447852	1945300	2473748
Subscriber deposit	353832	619275	830360	455470	290484
Sale of sets & other income	353248	385492	292649	-	-
Collection of Vat & other service charges	2252250	2309039	2864181	3835346	5032912
Maturation of Govt. securities	1103800	-	3130300	3913400	5498875
Other income	435517	450000	456500	700000	888465
Total internal sources	1277033 9	1191264 5	1785809 1	2583749 2	3358941 7

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

Internal sources of financing of cash which was planned by the company in various fiscal years were categorized as Collection of revenue, Inter-administration, Subscriber deposit, Sale of sets and other income, Collection of Vat & Other Services Maturation of Government Securities, and Other Income. Those were main sources of financing to meet the expenditure of approved budget.

**Table 4.10**

**Total internal source of financing as per revised budget**

**(Rs.'000)**

<b>Year</b> <b>Description</b>	<b>2061/62</b>	<b>2062/63</b>	<b>2063/64</b>	<b>2064/65</b>	<b>2065/66</b>
Domestic revenue	6271330	7361764	1045001 6	1352439 3	1694247 7
Inter administration	1620597	1959840	1944450	3126410	3361161
Subscriber deposit	161611	443170	304734	150334	134137
Sale of sets & other income	342437	331523	262048	-	-
Collection of Vat & other service charges	1886320	2336249	2911478	3330442	4770947
Maturation of Govt. securities	1103800	350000	3265880	3869200	7205000
Other income	435517	350000	659000	821595	1539350
Total internal sources	1182161 2	1313254 6	1979760 7	2482237 4	3395307 2

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The budgeted internal sources of cash was revised in the mid of various fiscal year. It almost matched with actual position. The amount of internal source of budget was in an increasing trend. It was sufficient to meet actual annual expenses of the company.

**Table 4.11**  
**Total actual internal source of finance**

**(Rs.'000)**

<b>Year</b> <b>Description</b>	<b>2061/62</b>	<b>2062/63</b>	<b>2063/64</b>	<b>2064/65</b>	<b>2065/66</b>



Domestic revenue	6513925	8209068	1131992 5	1396024 6	1628700 7
Inter administration	1565085	1855434	1932396	3208350	3632330
Subscriber deposit	280336	254588	196413	262441	146342
Sale of sets & other income	344290	550202	-	-	-
Collection of Vat & other service charges	1886858	2403463	2807193	3518477	3763828
Maturation of Govt. securities	951171	2579000	3442320	1526458	1008513 5
Other income	610153	658422	784305	1100950	1500953
Total internal sources	1215181 8	1651017 7	2048255 2	2357692 2	3541559 5

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The actual cash collection position under various head was in satisfactory position for different fiscal years. Company was able to collect more than as it had targeted in the budget. Thus, there was no problem of financing at all.

#### 4.2.3.2 External source of cash

**Table 4.12**

**Total approved budgeted external source of financing**

Year Description	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66
Belgium loan	460000	130000	100000	-	30000	-	-

Total external source	460000	130000	100000	-	30000	-	-
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*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

**Table 4.13**

**Statement showing total revised budgeted external source of financing**

<b>Year / Description</b>	<b>2059/60</b>	<b>2060/61</b>	<b>2061/62</b>	<b>2062/63</b>	<b>2063/64</b>	<b>2064/65</b>	<b>2065/66</b>
Belgium loan	248195	94318	-	-	-	-	-
Total external source	248195	94318	-	-	-	-	-

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

**Table 4.14**

**Statement showing actual external source of financing**

<b>Year / Description</b>	<b>2059/60</b>	<b>2060/61</b>	<b>2061/62</b>	<b>2062/63</b>	<b>2063/64</b>	<b>2064/65</b>	<b>2065/66</b>
Belgium loan	187450	-	-	-	-	-	-
Total external source	187450	-	-	-	-	-	-

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The external source of cash was financed by international agencies namely (a) World Bank (b) Danish grant/ loan(c) NDF loan (d) Japanese grant (e) Korean loan (f) Belgium loan. The only external source used by NT was the Belgium loan. World Bank didn't provide since 2060, when Doorshanchar turned to Public Limited company. But the external source of financing was very nominal in total source of financing. From the study of actual collection of cash, it shows that the company could fulfill its fund needs by its own internal source because the amount of loan which was borrowed from external parties was decreasing year by year.

#### 4.2.4 Analysis of Application of Fund

##### 4.2.4.1 Analysis of Investment

**Table 4.15**

**Investment of cash as in approved budget**

**(Rs.'000)**

<b>Fiscal Year</b>	<b>Investment in Govt.Securities</b>	<b>Staff loan</b>	<b>Total</b>
2061/62	3000000	50000	3050000
2062/63	1750000	70000	1820000
2063/64	5027827	100000	5127827
2064/65	5000000	150000	5150000
2065/66	7000000	250000	7250000

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

**Table 4.16**

**Statement showing investment of cash as in revised budget**

**(Rs.'000)**

<b>Fiscal Year</b>	<b>Investment in Govt. Securities</b>	<b>Staff loan</b>	<b>Total</b>
2061/62	-	50000	50000
2062/63	3461000	70000	3531000
2063/64	4521700	150000	4671700
2064/65	5727152	150000	5877152
2065/66	8771595	250000	9021595

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

**Table 4.17**

**Statement showing investment of cash as in actual budget**

**(Rs.'000)**

<b>Fiscal Year</b>	<b>Investment in Govt.Securities</b>	<b>Staff loan</b>	<b>Total</b>
2061/62	740000	50000	790000
2062/63	3150500	70000	3220500

2063/64	4162950	150000	4312950
2064/65	6915852	150000	7065852
2065/66	11167374	-	11167374

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The company has been adopting a routine procedure for its investment purpose which was compulsory in nature which means NT had not analyzed surplus part of cash. It had prepared budget keeping cash aside for investment purpose rather than managing surplus cash. The company made provision of cash for investment purpose which were mainly in government securities and staff loan. Although the investment was in increasing trend it could not go simultaneously as the surplus of the company. Provision made for investment of cash

Application of fund was in increasing trend. In F/Y 2062/63, it decreased in comparison to F/Y 2061/62 but it was highest in F/Y 2063/64. Fund were mainly used in revenue expenditure, capital expenditure, payments to government, payments to employees, payments to inter- administration, payment of loan and interest, Financial investment and other liabilities. The increasing trend of fund shows that NT has been exploring its opportunities and using its fund to make them fruitful.

### **4.3 Analysis of Variation**

#### **4.3.1 Uses variation**

##### **4.3.1.1 Variation between approved budgeted uses and actual uses**

**Table No. 4.18**

**Variation Between Approved Budget Uses And Actual Uses of NTC**

**(Rs. ' 000)**

<b>Fiscal Year</b>	<b>Approved Budget Uses</b>	<b>Actual Uses</b>	<b>Difference</b>	<b>%</b>
2061/62	17,763,327	14,444,112	(3,319,215)	(18.68)
2062/63	19,168,471	12,021,625	(7,146,846)	(37.28)
2063/64	21,952,914	17,757,839	(4,195,075)	(19.11)
2064/65	30,169,399	22,024,505	(8,144,894)	(27)
2065/66	36,382,678	33,359,054	(3,023,624)	(8.31)

Source: NTC Budget and Policy Program (2061/62 to 2065/66)

**Figure 4.9**

**Variation between Approved Budget Uses and Actual Uses**

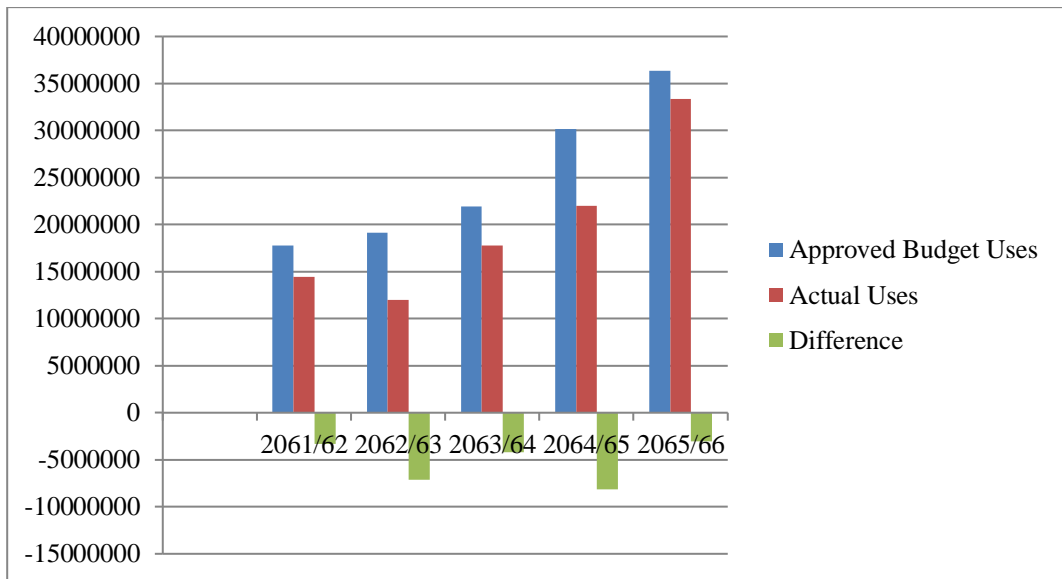


Table 4.18 and Figure 4.9 shows approved amount of budget was not incurred as the company plan. The goal of approved budget, which was designed by the company, was not accomplished by company. There was great difference between actual uses of cash in various head than as planned in approved budget. The performance level was below the budget. The company was not able to spend cash source which was approved to meet the objectives of programs and projects in all fiscal year. Specifically, there is great difference in F/Y 2064/65 of approved budgeted uses and actual uses.

#### 4.3.1.2 Difference between Revised budget use and actual uses

**Table 4.19**  
**Difference between Revised Budget Uses and Actual Uses**

(Rs' 000')

Fiscal Year	Revised Budget Uses	Actual Uses	Difference	%
2061/62	13,583,698	14,444,112	860,414	5.96
2062/63	14,511,804	14,063,052	(2,490,179)	(20.71)
2063/64	20,788,653	17,757,839	(3,030,814)	(17.07)
2064/65	23,304,222	22,024,505	(1,279,719)	(5.49)
2065/66	32,300,331	33,359,054	1,058,723	3.28

Source: NTC Budget and Policy Program (2061/62 to 2065/66)

**Figure 4.10**  
**Difference between Revised Budget Uses and Actual Uses**

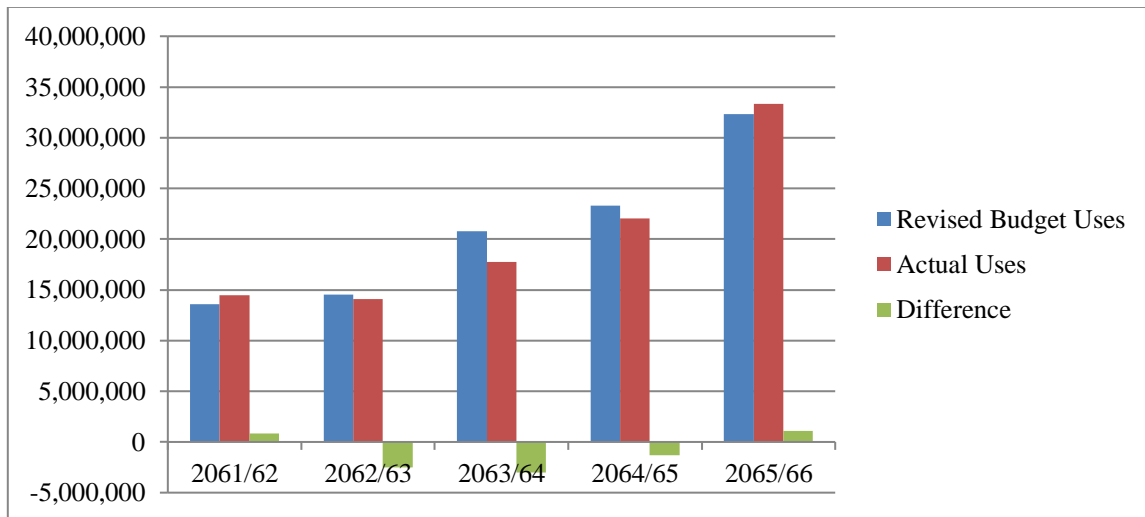


Table 4.19 and figure 4.10 shows that when the budget was revised, actual uses was slightly greater than revised budget uses in F/Y 2061/62. But, there was less application of funds than in revised of corresponding F/Y 2060/61, 2062/63 and 2063/64, which shows management inability to divert funds to proportionate sectors.

#### 4.3.2 Sources variation

#### 4.3.2.1 Difference between approved budgeted sources and actual sources

**Table 4.20**

**Difference Between Approved Budget Sources And Actual Sources**

Rs.In Millions

<b>Fiscal Year</b>	<b>Approved Budgeted Cash Sources</b>	<b>Actual Cash Sources</b>	<b>Difference</b>	<b>%</b>
2061/62	12,870,339	12,151,818	(718,521)	(5.58)
2062/63	11,912,645	16,510,177	4,597,532	38.59
2063/64	17,888,091	20,482,552	2,594,461	14.50
2064/65	25,847,492	23,576,892	(2,270,600)	(8.78)
2065/66	32,519,319	35,415,595	2,896,276	8.91

Source: Budget and Policy Program (2061/62 to 2065/66)

**Figure 4.11**

**Variation between Approved Budget Sources and Actual Sources**

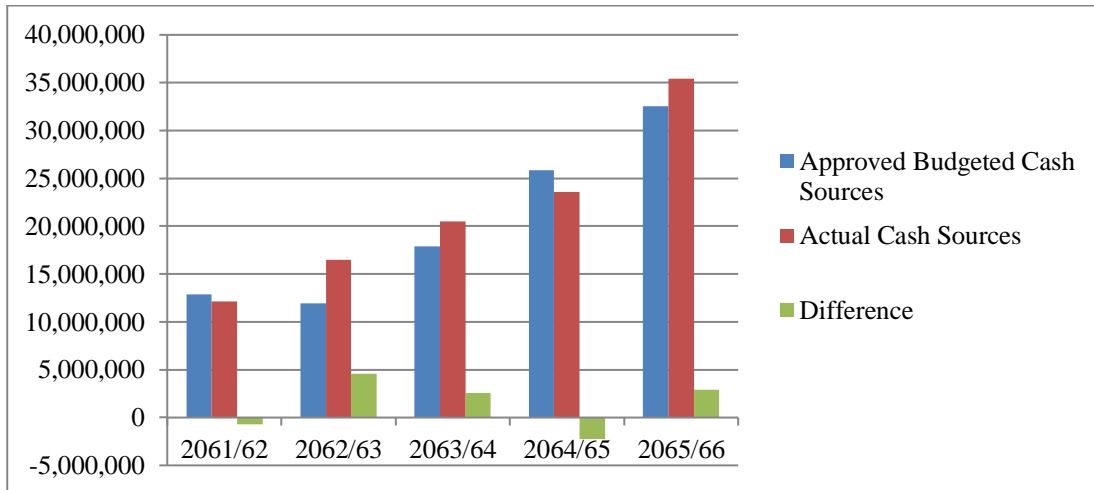


Table 4.20 and figure No.4.11 exhibits that budgeted amount of sources is higher than total actual sources in year 2061/62 and 2064/65. It indicates collections of cash from different sources were less than the company targeted in those years. But, actual cash sources were favorable in all other years.

#### 4.3.2.2 Difference between Revised budget sources and actual sources:

**Table 4.21**  
**Variation between Revised Budget Sources and Actual Sources**

**Rs. In Millions**

<b>Fiscal Year</b>	<b>Revised Budget Sources</b>	<b>Actual Sources</b>	<b>Difference</b>	<b>%</b>
2061/62	11,821,612	12,151,818	330,206	2.79
2062/63	13,132,546	16,510,177	3,377,631	25.72
2063/64	19,797,607	20,482,552	714,945	3.61
2064/65	24,830,374	23,576,892	(1,253,482)	(5.05)
2065/66	33,953,072	35,415,595	146,253	4.31

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

**Figure 4.12**  
**Variation between Revised Budget Sources and Actual Sources**

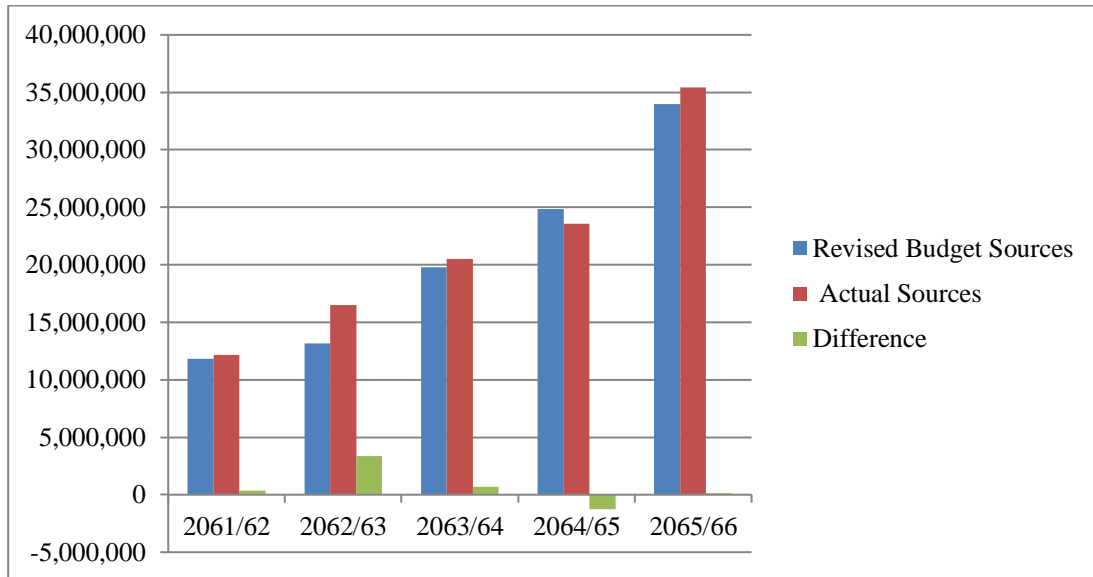


Table 4.22 and Figure 4.12 show that Revised Budget of cash shows favorable situation of cash. The total actual cash source was higher than revised budgeted cash source except in year 2064/65. The company has always drawn ambitious budget, which it has not been able to meet. Revisions of cash budget tried to prove to be adjusted than approved budget. There was huge amount of cash surplus which was not invested and managed properly. Even though there was unfavorable situation in application of



budgeted cash, collection of the cash or sources shows positive prospects of budget. That means actual cash source becomes higher than budgeted cash source amount. But, in F/Y 2064/65, the actual cash source was less than revised budget.

#### 4.4 Ratio Analysis:

Ratio analysis is tool which is used for the diagnosis of financial health of the company. It is useful for the stakeholder of the company. It presents the actual financial position of the company. Liquidity ratio, turnover ratio, profitability ratio and solvency ratio are the major types of ratio which are frequently used for the analysis.

For the study, selected ratios are chosen which exhibit cash position, liquidity position of NT.

##### 4.4.1 Absolute Cash Ratio

**Table 4.22**  
**Statement Showing Absolute Cash Ratio**

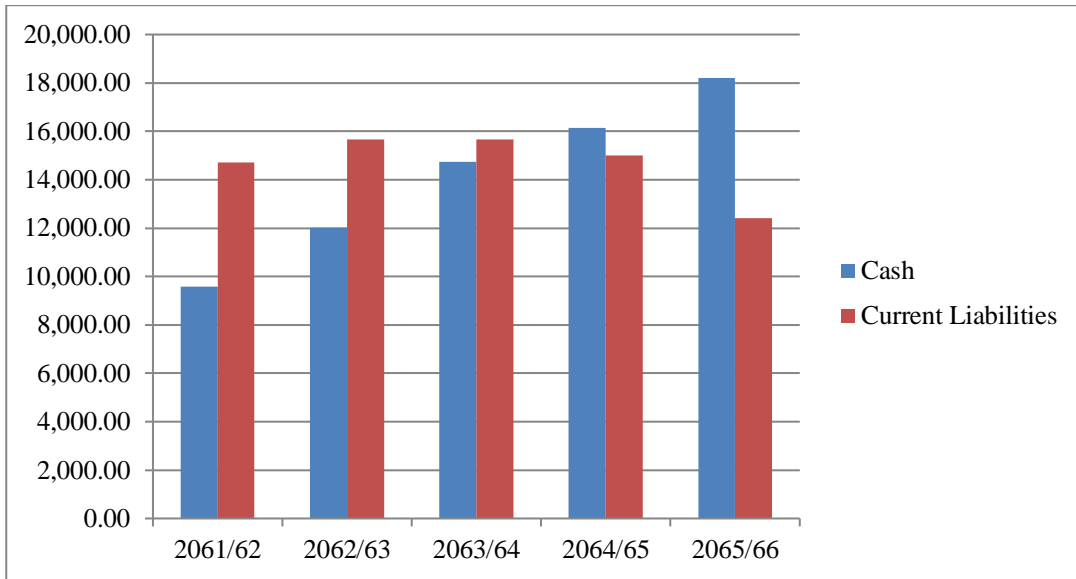
<b>Rs. In Millions</b>			
<b>Fiscal Year</b>	<b>Cash</b>	<b>Current Liabilities</b>	<b>Ratio</b>
2061/62	9,574.500	14,722.677	0.65
2062/63	12,021.625	15,665.380	0.77
2063/64	14,746.338	15,675.154	0.94
2064/65	16,134.517	15,014.440	1.07
2065/66	18,191.058	12,406.063	1.47
<b>Mean</b>			<b>0.98</b>
<b>S.D (<math>\sigma</math>)</b>			<b>0.2839</b>
<b>C.V.</b>			<b>28.97</b>

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The above statistical calculation shows the statistical analysis of absolute cash ratio of Nepal Telecom. As per the calculation, the value of coefficient of variation of absolute cash ratio is 28.97. This illustrates that the data of table are normally dispersed. The standard deviation is 0.2839. This indicates that absolute cash ratio of Nepal Telecom is of low degree of risk.

**Figure 4.13**

### Absolute Cash Ratio



On the basis of above table it can be stated that the strength of NT in terms of cash position is in a highly satisfactorily increasing trend.

#### 4.4.2 Cash to total asset ratio:

**Table 4.23**

**Statement Showing Cash to Total Assets Ratio**

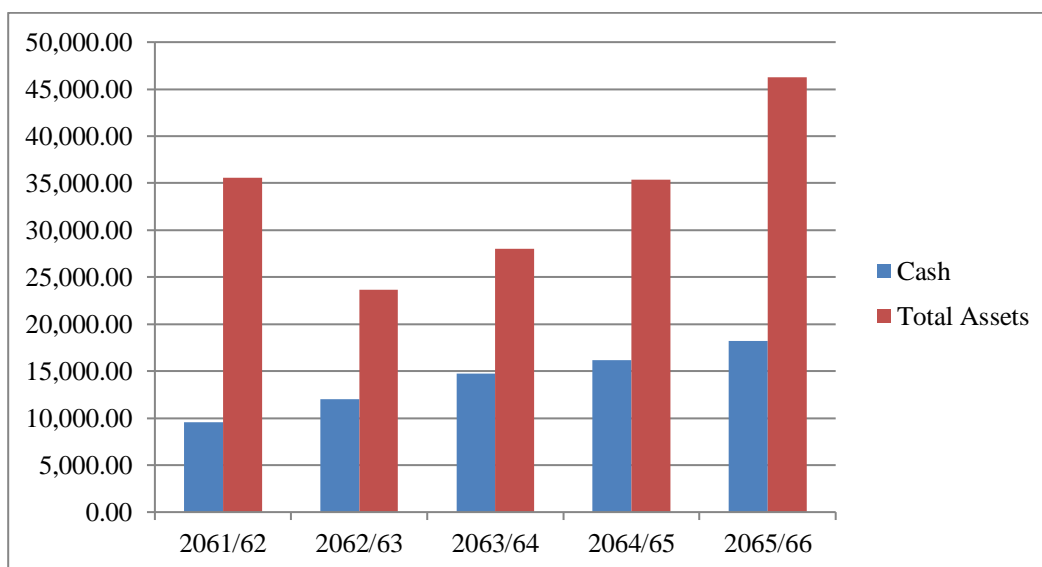
Fiscal Year	Cash Rs(million)	Total Assets Rs(million)	Ratio
2061/62	9,574.50	35,572.77	0.27

2062/63	12,021.63	23,686.03	0.51
2063/64	14,746.34	27,985.96	0.53
2064/65	16,134.517	35,343.893	0.46
2065/66	18,191.058	46,280.626	0.39
<b>Mean</b>			<b>0.4320</b>
<b>S.D (<math>\sigma</math>)</b>			<b>0.0938</b>
<b>C.V.</b>			<b>21.71%</b>

Source: NTC Budget and Policy Program (2061/62 to 2065/66)

The above statistical calculation shows the statistical analysis of Cash to total ratio of Nepal Telecom. As per the table, the value of coefficient of variation of is 21.71. This illustrates that the cash is normally dispersed. The standard deviation is 0.0938. This indicates that cash of Nepal Telecom lies in normal risk.

**Figure 4.14**  
**Cash to Total Assets Ratio**



The table above depict that NT had maintained a high cash to total assets ratio, which indicates that cash was kept idle without investing in appropriate sector. However, in the latter years the ratio went on decreasing, which indicates that NT has started to keep appropriate cash to meet the needs of total assets.

#### 4.4.3 Interval measures:

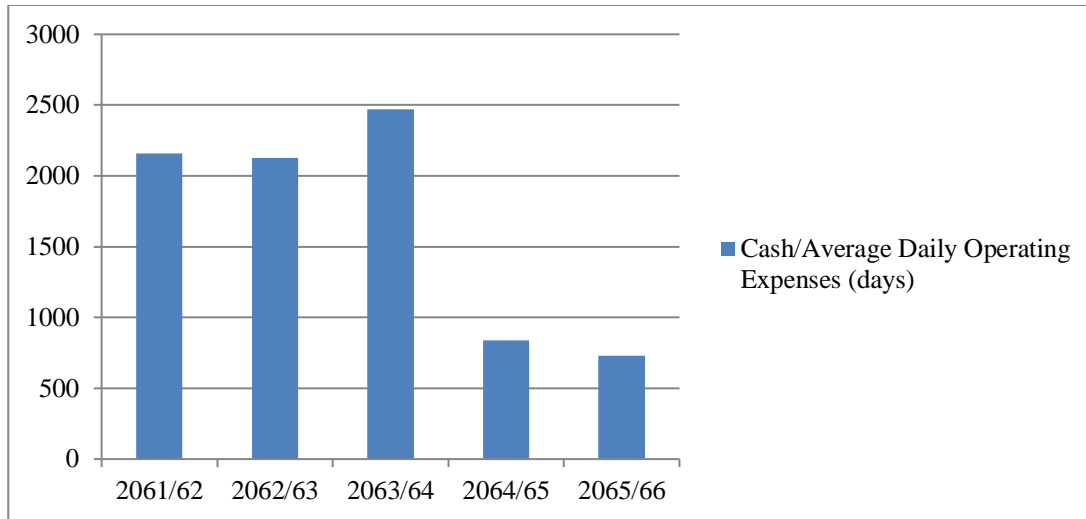
It indicates the time period until which the available cash would be sufficient to meet operating expenses. However, while taking marketable securities it should be considered whether the same are disposable or not. Only disposable marketable securities should be added to cash for computing ratios. A higher ratio indicates better position. (*Maheshwari and Mittal, 2003*)

**Table 4.24**  
**Interval measures**

<b>Fiscal Year</b>	<b>Cash Rs(million)</b>	<b>Annual Operating Expenses Rs (million)</b>	<b>Daily Operating Expenses Rs (million)</b>	<b>Cash/Average Daily Operating Expenses (days)</b>
2061/62	9,574.50	1626.35	4.52	2158.08
2062/63	12,021.63	2032.43	5.65	2127.72
2063/64	14,746.34	2147.52	5.97	2470.08
2064/65	16,134.517	6,921.87	19.23	839.03
2065/66	18,191.058	8,961.76	24.89	730.86

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

**Figure 4.15**  
**Trend Line Showing Interval Measures**



On the basis of above table and figures, it can be analyzed that the company's annual closing cash balance is sufficient to meet average daily operating expenses.

#### 4.4.4 Liquidity Analysis:

##### 4.4.4.1 Current Ratio

**Table 4.25**

**Statement Showing Current Ratio**

<b>Fiscal Year</b>	<b>Total Current Assets Rs(million)</b>	<b>Total Current Liabilities Rs(million)</b>	<b>Current Ratio</b>
2061/62	20,598.35	14,722.68	1.40
2062/63	22,526.52	15,665.38	1.44
2063/64	23,519.75	15,675.15	1.53
2064/65	24,180.639	15,014.440	1.61
2065/66	27,663.560	12,406.063	2.23
<b>Mean</b>			<b>1.6420</b>
<b>S.D (<math>\sigma</math>)</b>			<b>0.3028</b>
<b>C.V.</b>			<b>18.44%</b>

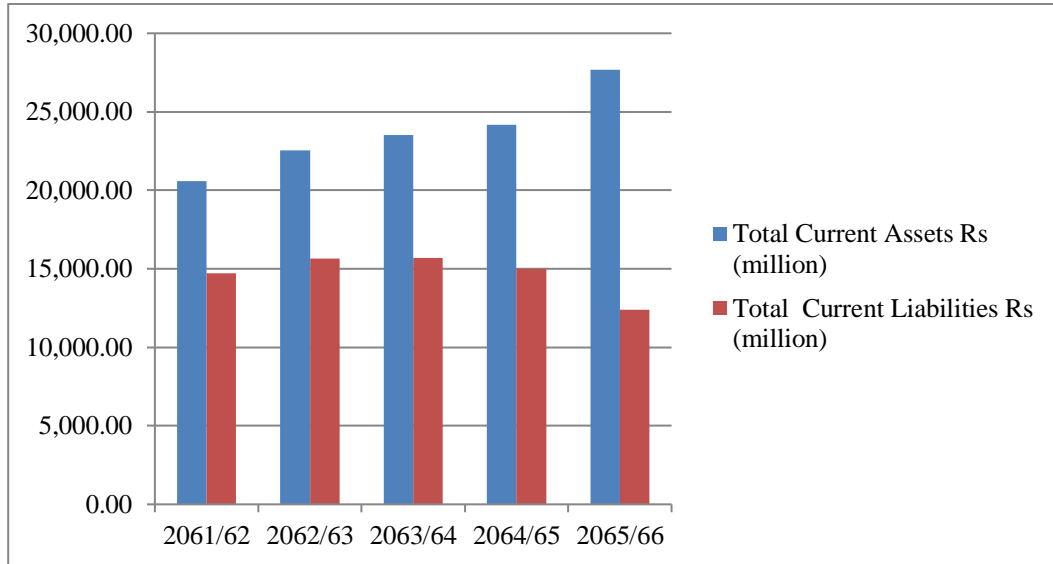
*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The above statistical calculation shows the statistical analysis of current ratio of Nepal Telecom. As per the table, the value of coefficient of variation of current ratio is 18.44.

This illustrates that the data of table are normally dispersed. The standard deviation is 0.3028. This indicates that current ratio of Nepal Telecom is of low degree of risk.

**Figure 4.16**

**Figure Showing Current Ratio**



The Table 4.25 and the Figures depict that the current assets of the company over the study period was good enough to meet the current liabilities. In the F/Y 2065/66 the current ratio has exceeded the standard ratio of 2:1, which indicates that NT has maintained abundant assets to meet any unpredictory short term obligations.

#### 4.4.4.2 Liquid ratio

**Table 4.26**

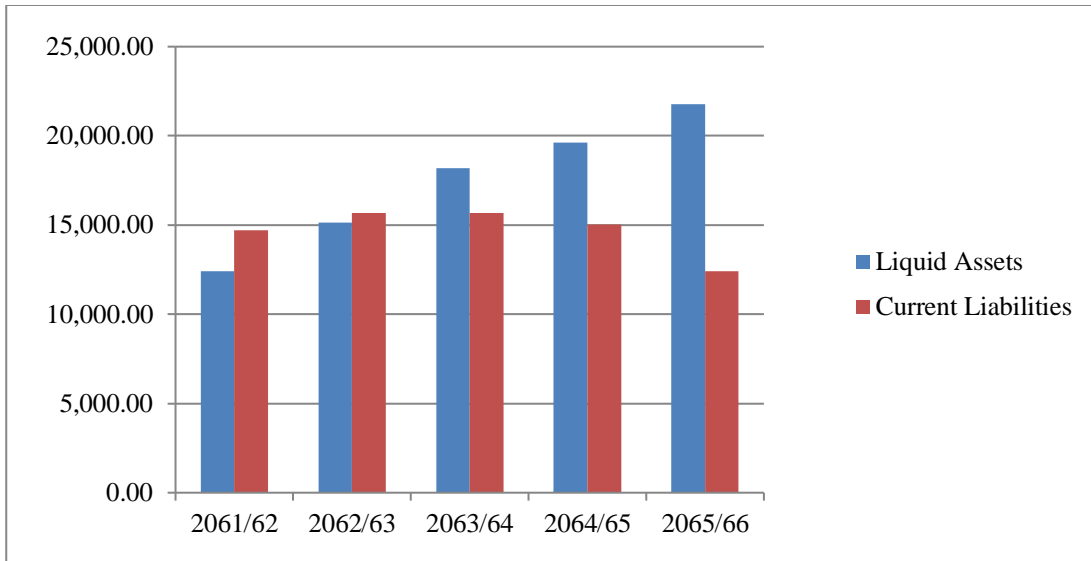
### Liquid Ratio

<b>Fiscal Year</b>	<b>Liquid Assets Rs(million)</b>	<b>Current Liabilities Rs(million)</b>	<b>Liquid Ratio</b>
2061/62	12,400.44	14,722.68	0.84
2062/63	15,121.12	15,665.38	0.94
2063/64	18,201.85	15,675.15	0.97
2064/65	19,617.13	15,014.44	1.31
2065/66	21,784.26	12,406.063	1.75
<b>Mean</b>			<b>1.1620</b>
<b>S.D (<math>\sigma</math>)</b>			<b>0.3339</b>
<b>C.V.</b>			<b>28.73%</b>

*Source: NTC Budget and Policy Program (2061/62 to 2065/66)*

The above statistical calculation shows the statistical analysis of liquid ratio of Nepal Telecom. As per the calculation, the value of coefficient of variation of liquid ratio is 28.73. This illustrates that the data of table are normally dispersed. The standard deviation is 0.3339. This indicates that liquid ratio of Nepal Telecom is of normal degree of risk.

**Figure 4.17**  
**Liquid Ratio**



The above illustrated tables and figures an upward directing slope of NT’s liquidity ratio. This indicates that NT has maintained sufficient highly liquid assets that can be utilized at any uncertain period to meet any short term obligation. Although the liquid ratio was not quite satisfactory in the first 3 years (2061/62 to 2063/64) of the sample time period, as years passed, it continuously increased to go slightly higher than the standard of 1:1.

#### 4.4.4.3 Cash Turnover Ratio:

The ratio of cash in hand and at the bank to net sales is termed as cash turnover ratio or cash velocity. The ratio indicates the efficient use of cash to generate sales. Cash balance should be kept within reasonable limits just as debtor and stock.

**Table 4.28**  
**Cash Turnover Ratio**

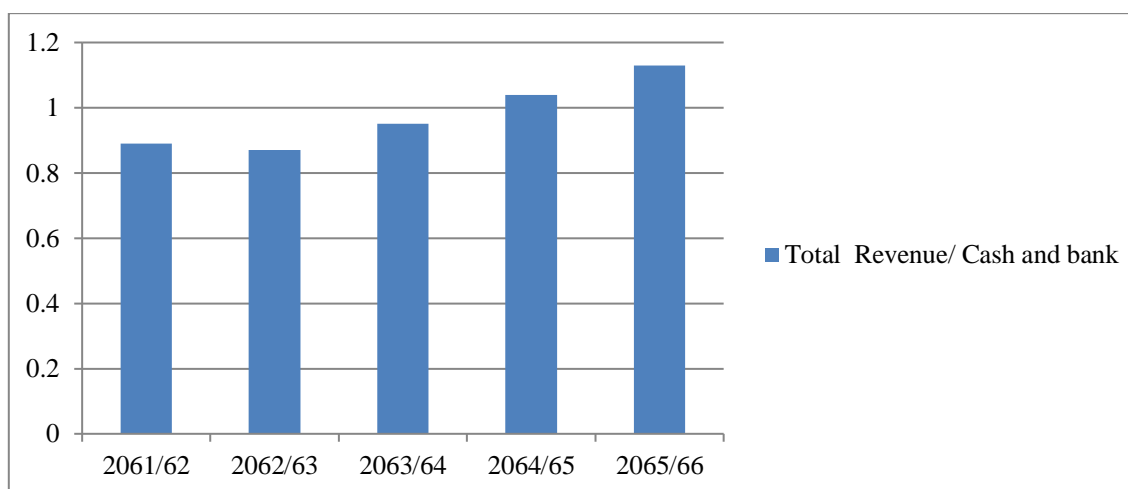


<b>Fiscal Year</b>	<b>Total Revenue ( in millions)</b>	<b>Cash and Bank ( in millions)</b>	<b>Cash turnover Ratio</b>
2061/62	8584.14	9,574.50	0.89
2062/63	10413.65	12,021.63	0.87
2063/64	13967.32	14,746.34	0.95
2064/65	16,788.359	16,134.517	1.04
2065/66	20,646.629	18,191.058	1.13
<b>Mean</b>			<b>0.9760</b>
<b>S.D (<math>\sigma</math>)</b>			<b>0.0970</b>
<b>C.V.</b>			<b>9.94%</b>

Source: NTC Budget and Policy Program (2061/62 to 2065/66)

The above statistical calculation shows the statistical analysis of cash turnover ratio of Nepal Telecom. As per the calculation, the value of coefficient of variation of absolute cash ratio is 9.94. This illustrates that the data of table are normally dispersed. The standard deviation is 0.0970. This indicates that cash turnover ratio of Nepal Telecom is of low degree of risk.

**Figure 4.18**  
**Cash Turnover Ratio**



In reference with the above illustrated tables and figures, in the F/Y 2061/62 and 2062/63 the cash turnover ratio was not in a stable position. However, in F/Y 2064/65 it

exceeded 1 and maintained the upward trend in the following year too. This upward slope indicates that NT is successful in utilizing its idle cash in generating sales.

## 4.5 Actual Cash Flow Analysis

### 4.5.1 Cash Flow from All Activities

**Table 4.29**

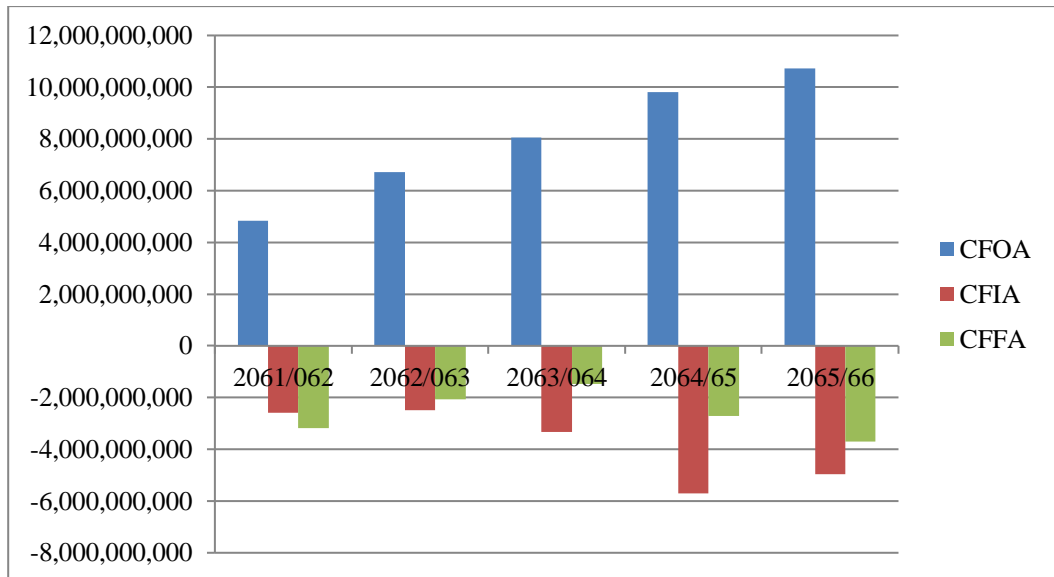
**Statement Showing Cash Flow from Various Activities**

Activities	Fiscal Year				
	2061/062	2062/063	2063/064	2064/65	2065/66
CFOA	4,827,497,506	6,722,360,621	8,052,325,466	9,799,160,046	10,716,850,813
CFIA	(2,595,531,134)	(2,483,522,527)	(3,326,419,166)	(5,709,497,306)	(4,955,364,157)
CFFA	(3,187,010,931)	(2,071,719,115)	(1,475,161,719)	(2,709,483,949)	(3,704,945,329)

*Source: Budget and Policy Program (2061/62 to 2065/66)*

**Figure 4.19**

**Figure Showing Cash Flow position from Various Activities**



The table and figures above shows the cash flow position of NT in 5 consecutive fiscal years. The cash in-flow from operating activities has been increasing every year.

Similarly, the stature of cash out-flow to investment and financial activities was in an instable condition up to F/Y 2063/64 because the company was seen to be extending its services, getting involved in new projects and simultaneously paying its long term liabilities, but after that it has been able to remain in an increasing trend due to its additional effort in investing funds and maintaining high retained earnings.

In an overall scenario, it can be stated that NT possesses a strong financial position.

#### **4.6 Policy Analysis:**

Some of the provision, procedure and rules relating cash management practices and internal control are discussed and analyzed in this phase of study:

- 1 Strategic plan for ten years should be prepared with revision and amendment in every five years.
- 2 Short term plans and annual programs should be prepared to meet the objective of the strategic plan.
- 3 Annual programs and estimated income/expenditure budget should be presented in central office before three months by the beginning of the fiscal year. Managing director, with revision and amendment presents that budget in front of the committee for discussion and approval.
- 4 To meet operating expenses, 25 % of actual annual expenses can be provided as advance budget in case the budget is not approved.
- 5 Budget can be transferred and adjusted in different heads if it is required after getting prior approval of managing director or the committee.
- 6 In case of income and deposit, income amount should be deposited in the company's fund account.
- 7 Deposit or income amount received against services and from other source should be deposited on the same day. If it is not possible, the cash should be deposited the next day on a mandatory account.
- 8 Deposits from customers or other parties received time to time should be deposited in deposit account.
- 9 In regard to account operation, transactions should be made with Nepal Rastra Bank or other commercial banks as recommended by the committee.

- 10 Signature of minimum two authorized persons is required in such transaction.
- 11 Telecom offices should transfer the income amount from office fund account to central fund account keeping minimum balance amount in their offices.
- 12 Final responsibility of all book keeping and accounting procedure relating income expenditure lies upon office – in – charge although account officer has to perform tasks and responsibilities related to economic transaction under the order of office in charge and within the economic rules of the company.
- 13 All the transactions should be made in due course within the prescribed rules and procedure which has to be reported to the authority.
- 14 After internal audit has been done within the specific time, all the reports and records should be prepared within two months by the end of fiscal year for final audit.
- 15 There is strict provision for the advance and advance clearance.
- 16 All the records and account should be kept systematically and in an organized way in accordance to the accounting policy of the company.
- 17 There is a provision of penalty and punishment for de-regulating accounting rules and economic policy of the company.
- 18 For the daily petty expenses Rs 25,000 and Rs 10,000 petty cash fund is established for central office, directorates, departments and account office respectively on reimbursement basis.
- 19 Remaining parallel to the company's needs, there is the existence of a policy that the remaining cash balance should be diversified to investment in multi-objective sectors
- 20 In accordance to international standards, in order to convert NT into a telecom service, issues regarding the policy of domestic and foreign owner ship change has to be addressed to the specialists and a report must be presented in regard.

There are strict provisions regarding cash handling in NT. These legal provisions are mandatory for every authorized officer along with other subordinate staff. The decision making process will be lengthy due to compliance of time consuming rules and procedure as prescribed. Prompt decision cannot be made on the behalf of the company.

The policy study shows that NT is still suffering from centralization problem of management.

## **5.2 Major Findings of the study:**

- a. The actual cash balances were higher than approved budgeted amounts. It shows that there was no effective implication of budgeted amount. The degree of deviation simply increased up to 2062/63 and thereafter remained in a fluctuating state, which ended up in a figure much less than that of F/Y2062/63. It indicates positive trend in closing balance of cash. Similarly, actual cash balances were higher than revised budgeted cash amount. The degree of deviation was of negligible amount. In year 2061/62 actual cash balance was less than revised budgeted amount. However, this trend reversed and the actual cash balance appeared to exceed every fiscal year from 2063/64 except the F/Y 2064/65. Revision of budget tried more to adjust the degree of deviation between actual approved budget amounts.
- b. Nepal Telecom prepared and approved deficit budget each year from 2061/62 to 2066/67. When opening balance was not included in source side of budget, total budgeted cash uses was always higher. This situation was totally differed when the company revised its budget. The result of revision showed surplus position of cash from F/Y 2064/65 to 2066/67. This shows that company was not able to meet the target of budget. So, it shows that budget was not implemented properly and surplus was not used in productive investment. It could be done by keeping required level of closing cash balance in hand.
- c. The total budgeted source was computed with the inclusion of closing cash balance of previous year, external and internal source. Internal source of cash was the main portion of the total cash source to meet the budget. The total approved budget cash expenses could be met by total budgeted cash source and there were deficit in every year and surplus. When budget was revised there was a certain amount of surplus in 2061/62 after which the company faced revised budget deficit in three consecutive fiscal years. In the last year of the sample time period, that is F/Y 2065/66, the company came up with a revised budget surplus of 3.28%.

The deficit budget had been prepared just after the NT entered in the market competition.

- d. Internal sources of financing of cash which were planned by the company in various fiscal years were categorized as Collection of revenue, Inter-administration, Subscriber deposit, Sale of sets and other income, Collection of Vat & Other Services Maturation of Government Securities and Other Income. The budgeted internal sources of cash were revised in the mid of every fiscal year. It tried to match with actual position. The amount of internal source of budget was in increasing trend. It was sufficient to meet actual annual expenses of the company.
- e. The external source of cash was financed in past in accordance to the following international agencies:
  - (a) World Bank (b) Danish grant/ loan (c) NDF loan (d) Japanese grant (e) Korean loan (f) Belgium loan. But Belgium loan was only the external source of financing used by NT. It was very nominal in total source of financing. From the study of actual collection of cash, it shows that the company could fulfill its need by its own internal source. The amount of loan which was borrowed from external parties was decreasing year by year.
- f. NT used its fund in revenue expenditure, capital expenditure, payments to government, payments to employees, payments to inter-administration, payment of loan and interest, financial investment and other liabilities. The increasing trend of fund shows that NT has been exploring its opportunities and using its fund to make them fruitful. NT had also made a provision of cash for investment purpose which were mainly in government securities, staff loan and pension fund.
- g. The goal of approved budget, which was designed by the company, was not accomplished by company. There was great difference between actual uses of cash in various head than as planned in approved budget. The actual performance level was continuously below the budget. The company was not able to spend cash source which was approved to meet the objectives of programs and projects in all fiscal years. The highest difference in approved budget uses and actual uses was experienced in F/Y 2062/63. When the budget was revised, actual uses was

slightly higher than revised budget uses in F/Y 2061/62 and 2065/66.

- h. Budgeted amount of sources is higher than total actual sources in year 2061/62 and 2064/65. It indicates that collection of cash from different sources was less than that set by the company during those years. But, actual cash sources were favorable in the other fiscal years.
- i. The company has always drawn ambitious budget. But it was not able to meet its target as desired. Revisions of cash budget tried to adjust than approved budget, but did not prove to be that much successful. After the budget was revised there was a huge amount of cash surplus in F/Y 2062/63. Even though there was unfavorable situation in application of budgeted cash, the collection of cash shows positive prospects of budget. But, in F/Y 2064/65, the actual cash source was less than revised budget.
- j. The statistical analysis of NT was diagnosed with the help of various statistical tools. The statistical analysis resulted the derivation between the data.
- k. The financial health and statistical presentation of NT was diagnosed with the help of various financial ratios and statistical tools. The statistical analysis between the data budgeted and actual variables and the implication of cash position analysis, liquidity position analysis, and cash turnover ratio or cash velocity ratio have resulted in the derivation of the following findings:
  - 1 The cash position of the company was strong in the F/Y 2061/62 and continued to upgrade its strength in the following years to reach a satisfactory ratio of 1.47:1 in F/Y 2065/66.
  - 2 The analysis of cash to total assets ratio shows that cash was kept idle without investing in appropriate sector. However, in F/Y 2064/6, the company reversed the trend and continued the downfall to reach a ratio of 0.39:1 in F/Y 2065/66.
  - 3 The trend of interval measure pasteurizes that the company's annual closing cash balance was sufficient to meet the average daily operating expenses.
  - 4 The liquidity position of NT was assessed through the use of current ratio and liquidity ratio. Current ratios show that the current assets of the company over the study period were sufficient to meet the current liabilities. In the final fiscal year 2065/66, the current ratio exceeded the standard ratio of 2:1 to reach a significant

- ratio of 2.23:1, which indicates abundance of assets to meet short term obligations.
- 5 In the case of exact liquidity position, the ratios in the first three consecutive financial years of the study period were normal, but not according to the standards. However, in F/Y 2064/65 and 2065/66, the company maintained a standard liquidity position to meet the uncertain current liabilities of the company.
  - 6 The company's cash turnover ratio has remained in an upward trend throughout the sample time period, which denotes that NT has remained successful in utilizing its idle cash in generating sales.
  - 7 The actual cash flow analysis revealed the real position of cash flow within the company. Cash in-flow from operating activities is observed to be increasing every fiscal year. Cash out-flow from investment activities was satisfactory from F/Y 2064/65 as a result of it vigorous appliance of investment in funds though the stature of cash out-flow from investment activities as well as financial activities was in an unstable negative condition in the former years of the sample time period due to its diversion in extending projects and services and payment of long-term liabilities. The effect of the triangular flow of cash in and from operating, investment and financial activities has been strengthening the financial position of NT.
  - 8 Due to the strict provisions in respect to the policy determining cash handling in companies, the decision making process becomes lengthy. Although NT is continuously operating as per the prescribed directives, NT is still suffering from centralization problem of management.

## **CHAPTER - V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**



## **5.1 Summary**

The study emphasizes on the cash management of NT. Cash management involves planning to controlling activities of the cash and cash equivalent. As stated in the introduction chapter, the objectives of the study are to observe the planning and control of cash in NT, to examine the existing internal control policy in NT regarding cash control practices, to identify the shortage or 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 the budgeted and actual sources of cash and its trend, to review cash flow from operating, financing and investing activities, and to suggest and recommend Nepal Telecom based on research findings.

Review of related literature and previous studies have been concluded in the second chapter. Tools and techniques that were implemented in the fourth chapter have been described in chapter three. The fourth chapter includes presentation and analysis of data. An effort has been made in this chapter to present major findings on the arena of cash management of NT to fulfill the objectives of the study.

## **5.2 Conclusion**

The overall cash management of Nepal Telecom is not satisfactory with the exception of liquidity and cash position. The company's adaption of management tools and techniques like annual cash budget, annual actual cash flow statement, and provision of financing and investment for cash management of the company was not sufficient to ensure an optimum level of liquidity as it failed to screen the weakness of effectiveness in management of cash. Appliance of corrective action has not been made despite the indication of actual weak situation of cash management by the derivation of its own annual analysis. From the study of targeted sector of cash management practices of Nepal Telecom, it can be concluded as below:

- a. Company could not meet targeted expenses and expenditures as it approved in the budget as a result of over estimation of expenses and weakness in the

implementation of budget. Planning and implementation could not move parallel. Possible reasons may be security and political issues as well as external competitive and dynamic environment.

- b. The company's actual collection of cash was higher than its budgeted target, which is a positive sign, but the excessive amount of collection was not diversified to profitable investment opportunities. It was unable to cope with the market demand that could have been fulfilled by tracking the surplus cash in that profitable sector.
- c. The company's liquidity position was high in the latter years of the sample time period. However, its failure to divert the surplus cash in appropriate investment sectors has adversely affected the profitability. Company has also taken external loan from foreign institution which was not required to borrow because its internal source was adequate to meet its expenses. In fact, only closing balance of cash of a year was sufficient to meet daily operating expenses for five to six years.
- d. There are strict provisions regarding cash control practices like procedure of running bank account, central collection policy, authority and responsibility for expenses etc in Nepal Telecom. Strict and lengthy procedure of business activities seemed to affect the decision making procedure.

### **5.3 Recommendations**

Cash management is one the most integral aspects of overall management area, which is interrelated and integrated with the overall functioning of management. Financial efficiency and effectiveness are vital for achieving the goal of any business enterprise.

On the basis of the study considering target objective, following are the recommendations for effective and efficient cash management of the NT.

- a. Preparation of realistic budget: While preparing budget, the Finance Department should analyze the actual past data and present needs of the programs applying systematic and scientific method of data analysis so that the vast deviation between actual and budgeted figure is reduced.

- b. Appropriate investment policy for surplus cash: research study reveals that actual cash collection was higher than the budgeted collection, resulting in surplus. However, effective management of the surplus could not be addressed due to which money remained idle. Thus, there must be a pre-defined policy and strategy to ensure that the company does not lose profitable investment opportunities by circulating its surplus.
- c. Maintain liquidity in balance: The Company is in a highly liquid state. Excessive liquidity must not be introduced results in loss of the capacity to realize profitable opportunities. Over control of liquidity may result in its under-balance, which can invite the situation of liquidity crunch. 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 and profitable sectors etc.
- d. Revision of the strict provisions regarding cash: NT should adopt practical procedure and practices for handling cheque and cash. To deal with financial and cash matters, respective responsibilities, authority and accountability should be delegated, facilitating further practical and flexible process. It will seriously encourage prompt decision by the concerned body and will help to implement a systematically effective budget on time.
- e. Use internal source in full capacity: Since internal source is sufficient to finance all the budgeted expenses, NT should discourage the irrational practice of borrowing loan from foreign institutions when internal funding is adequate in itself.
- f. Though this research has been made in accordance to the data and information pertaining to Nepal Telecom, its findings and recommendations are strongly believed to be useful for all such organizations operating in the service sector to review their practice of cash management and initiate any corrective action if required.

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## **APPENDICES**

### **Statistical Calculation**

## Appendix- I

### Mean, Standard Deviation & coefficient of variation

#### For Approved Cash Budget and Actual Cash at the end of F/Y

Year	X	(x - $\bar{x}$ )	(x - $\bar{x}$ ) <sup>2</sup>
2061/62	38	-16	256
2062/63	71.72	17.72	314
2063/64	55.31	1.31	1.7161
2064/65	58.42	4.42	19.5364
2065/66	31.78	-22.22	493.7284
	$\Sigma X = 255.23$		$\Sigma(X - \bar{X})^2 = 1084.98$

We know that,

$$\text{Mean} = \frac{\sum X}{n}$$

$$= \frac{38 + 71.72 + 55.31 + 58.42 + 31.78}{5} = \frac{255.23}{5} = 51 \text{ (approx)}$$

$$\begin{aligned} \text{Standard Deviation } (\sigma) &= \sqrt{\frac{\sum(x - \bar{x})^2}{n}} \\ &= \sqrt{\frac{1084.98}{5}} = 14.73 \end{aligned}$$

And

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{14.73}{51} \times 100\% = 28.88\%$$

## Appendix -II

### Statistical Calculations

#### For Revised Cash Budget and Actual Cash at the end of F/Y

Year	X	X - $\bar{X}$	(X - $\bar{X}$ ) <sup>2</sup>
2061/62	-11.29	-20.71	428.90
2062/63	31.83	22.41	502.21
2063/64	25.20	15.78	249.00
2064/65	-0.86	10.28	105.68
2065/66	2.22	-7.20	51.84
	$\sum X = 47.10$		$\sum (X - \bar{X})^2 = 1337.63$

We know that,

$$\text{Mean} = \frac{\sum X}{n}$$

$$\frac{47.10}{5} = 9.42$$

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

$$\sqrt{\frac{1337.63}{5}} = 16.36$$

And

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{16.36}{9.42} \times 100\% = 173.67$$

### Appendix –III

#### Statistical calculation for Absolute cash ratio



Year	X	$X - \bar{X}$	$(X - \bar{X})^2$
2061/62	0.65	-0.33	0.1089
2062/63	0.77	-0.21	0.0441
2063/64	0.94	-0.04	0.0016
2064/65	1.07	0.09	0.0081
2065/66	1.47	0.49	0.2401
	$\sum X = 4.90$		$\sum (X - \bar{X})^2 = 0.4028$

$$\text{Mean} = \frac{\sum X}{n}$$

$$\frac{4.90}{5} = 0.98$$

$$\begin{aligned} \text{Standard Deviation } (\sigma) &= \sqrt{\frac{\sum (x - \bar{x})^2}{n}} \\ &= \sqrt{\frac{0.4028}{5}} = 0.2839 \end{aligned}$$

And

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{0.2839}{0.98} \times 100\% = 28.97\%$$

#### Appendix- IV

#### Statistical calculation for Cash to total asset ratio

Year	X	$X - \bar{X}$	$(X - \bar{X})^2$
2061/62	0.27	-0.162	0.0262
2062/63	0.51	0.078	0.0060
2063/64	0.53	0.098	0.0096
2064/65	0.46	0.028	0.0008
2065/66	0.39	0.042	0.0018
	$\sum X = 2.16$		$\sum (X - \bar{X})^2 = 0.0444$

$$\text{Mean} = \frac{\sum X}{n}$$

$$= \frac{2.16}{5} = 0.4320$$

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

$$= \sqrt{\frac{0.0444}{5}} = 0.0938$$

And

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{0.0938}{0.4320} \times 100\% = 21.71\%$$

**Appendix -V**  
**Statistical calculation for current ratio**

Year	X	$X - \bar{X}$	$(X - \bar{X})^2$
2061/62	1.40	-0.2420	0.0586
2062/63	1.44	-0.2020	0.0408
2063/64	1.53	-0.1120	0.0125
2064/65	1.61	-0.0320	0.0010
2065/66	2.23	0.5880	0.3457
	$\sum X = 8.21$		$\sum (X - \bar{X})^2 = 0.4586$

$$\text{Mean} = \frac{\sum X}{n}$$

$$= \frac{8.21}{5} = 1.6420$$

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

$$= \sqrt{\frac{0.4586}{5}} = 0.3028$$

And

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{0.3028}{1.6420} \times 100\% = 18.44\%$$

**Appendix -VI**  
**Statistical Calculation for Liquidity ratio**

Year	X	X - $\bar{X}$	(X - $\bar{X}$ ) <sup>2</sup>
2061/62	0.84	-0.3220	0.1037
2062/63	0.94	-0.2220	0.0493
2063/64	0.97	-0.1920	0.0369
2064/65	1.31	0.1480	0.0219
2065/66	1.75	0.5880	0.3457
	$\sum X = 5.81$		$\sum (X - \bar{X})^2 = 0.5575$

$$\text{Mean} = \frac{\sum X}{n}$$

$$= \frac{5.81}{5} = 1.1620$$

$$\begin{aligned} \text{Standard Deviation } (\sigma) &= \sqrt{\frac{\sum (x - \bar{x})^2}{n}} \\ &= \sqrt{\frac{0.5575}{5}} = 0.3339 \end{aligned}$$

And

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{0.3339}{1.1620} \times 100\% = 28.73\%$$

**Appendix- VII**  
**Statistical calculation for cash turnover ratio**

Year	X	$X - \bar{X}$	$(X - \bar{X})^2$
2061/62	0.89	-0.0860	0.0074
2062/63	0.87	-0.1060	0.0112
2063/64	0.95	-0.0260	0.0007
2064/65	1.04	0.0640	0.0041
2065/66	1.13	0.1540	0.0237
	$\sum X = 4.88$		$\sum (X - \bar{X})^2 = 0.0471$

$$\text{Mean} = \frac{\sum X}{n} = \frac{4.88}{5}$$

$$= 0.9760$$

$$\begin{aligned} \text{Standard Deviation } (\sigma) &= \sqrt{\frac{\sum (x - \bar{x})^2}{n}} \\ &= \sqrt{\frac{0.0471}{5}} = 0.0970 \end{aligned}$$

And

$$\text{C.V} = \frac{\sigma}{\bar{X}} \times 100\% = \frac{0.0970}{0.9760} \times 100\% = 9.94\%$$