

CHAPTER- I

INTRODUCTION

1.1 Background of the Study:

Industrial revolution took place in the Great Britain. Industrial revolution brought changes in different aspects of human life such as socio-economic, demographic and political, and the revolution spread all over the Europe. Due to the revolution, many small scale industries converted into the large scale industries and started their mass production. Large scale industries incorporated in the form of limited company.

People in Europe grabbed the revolution and marched into the large scale industries from agriculture and small scale sole trading concern. Due to certain limitation of sole trading concern, many business organizations established in the form of partnership and partnership also couldn't fulfill all the requirement of the business organization because of its drawback such as lack of capital, unlimited liability and lack of effective management. Then the concept of the limited company emerged to fulfill the entire requirement for successful operation of the business organization.

At a short glance on historical perspective of economic development, different economic concept and system practiced in various time spans. Different economists suggested different economic concept for the efficient operation of the economy. The classical economist postulated "laissez faire doctrine" in 19th century against the control of the government in the economy. Under the laissez faire doctrine the role of government started to decrease. Another strong economic concept and system as called socialist economy came into its existence along with the

establishment of former USSR in 1917 and challenged the free market economic system. Under the socialist economic system, there was a totalitarian authority which controlled the entire economy of the country. In such nation, government imposed centrally controlled economic policy and system. After the great economic depression in 1930, another popular concept of mixed economic system emerged by allowing co-existence of both private and public sector. Under this economic system, government plays vital role for the efficient operation of the economy. Government plays promotional role by investing for infrastructure development where the huge amount of capital needed. In this era, most of the countries around the world are operating their economy under the mixed economic system.

Due to the wave of industrial revolution, many large scale business organizations established. But when the business organizations were on their expansion and enlargement, unfortunately the World War I broken out and suffered not only political sector but also business and economic sector of the world. As a result of World War I, business and economic sector lost its spirit and rhythm. That was the bitter experience which had been born by human being during the period of First World War. After the world war, business and economic sector re-organized and they resumed their operation, but the environment was not clean. It was totally influenced by political instability of the world. Every nation of Europe America and Asia concentrated to expand their military power being influenced by militarism.

As a result of militarism another devastating war broke out and devastated all over the world. The war attacked on the destiny of human being. Millions of people lost their life and home. Almost all the business organization forced into shut down. World War II suffered the economy

of entire world. After the termination of World War II, scenario of the whole world totally changed. The world politically divided into two polar. Almost all the countries of the world polarized in two parts according to their political system and philosophy. A polar led by Moscow (former USSR) following communism by centralizing all power and state's activities. In the communist countries business and economic sector was controlled by the nation. In the other hand, another polar led by Washington (USA) following free market economy. The polar led by USA, western European and some Asian and American countries were involved. Under capitalism, the concept of decentralization had been used and states power didn't concentrate its mind to control activities conducted by their people.

After the termination of World War II, business and economic sector reconstructed and reorganized by spending millions of dollar. Then clean environment created for expansion and development of business organization and they took their way by performing different kinds of business activities. Scientific and technological achievement also eased the way of business & commerce. Every nation around the world concentrated their efforts for their economic development. Every government participated directly in the process of economic development by investing and operating many public enterprises. After the termination of cold war, another concept of globalization and liberalization came its own existence and under this concept many multinational company established and started to provide their production and service all over the world. In this way, passing different ups and downs, business and commercial sector became successful to come in this present stage and now resuming its operation on the early 21st century.

In the context of Nepal, business and commercial sector is just creeping now. It is obvious that, Nepal is a developing country. The majority of the people are engaged in agriculture. Hence, the commercial sector is very backwards so far than other developed countries. In the period of Panchayat regime, many manufacturing & service oriented public enterprises were established to play the vital role for economic development of the nation. Government spent huge amount in public utility sector such as water, telecommunication and electricity. But their performance was not satisfactory. After the restoration of democracy, private sector started to play crucial role for the development of the country. After the political change, public enterprises started to privatize due to their poor performance. So, the business and commercial sector in Nepal taking its way to the expansion and development. Once again, the Maoist insurgency hit all over the country almost 12 years and created many difficulties for business and commercial sector. Now, the situation has totally been changed because the CPN-Maoist came to the negotiating table and entered into the peace process. Through the recently held constitutional assembly election, CPN-Maoist emerged as a largest political party. Thus, the ray of hope and clean environment for the expansion and development of business and commerce has been emerged.

"Every enterprise has its own goals and objectives. The management of the organization is responsible for the decision making, planning, formulating strategies and their implementation. The management is efficient if it is able to accomplish the objectives of the enterprise. It is effective, when it accomplishes the objectives with minimum effort and cost. In order to attain long-range efficiency and effectiveness, management must chart out its course of action in advance. A systematic approach that facilitates effective management performance is profit

planning and control or budgeting. Budgeting is therefore an integral part of management. In a way, a budgetary control system has been described as a historical combination of a goal-setting machine for increasing enterprises profit and goal achieving machine for facilitating organizational coordination and planning while achieving the budgeted targets" (Goet, Bhattarai, Gautam, 2063:11). Moreover, a profit plan or budget is the formal expression of the organizations plans and objectives stated in financial terms for a specified future period of time.

"Revenue is the aggregate exchange value of goods and services provided to the customers. In other words, revenue is any form of income earned by the organization in an accounting period. Revenue results from the sale of goods and rendering of services and measured by the charge made to customers, client or tenants for. It also includes gains from the sale or exchange of assets other than stock in trade, interest and dividends earned on investments and other increases in the owner's equity except those arising from capital contributions and capital adjustments. Revenue from ordinary sales or from other transaction in the ordinary course of business is some times described as operating revenue" (Bhattacharya & Dearden, 1980:137)

"Defined in its simplest terms planning is the determination of anything in advance of action, it is essentially a decision making process that provides a basis for economical and effective action in the future. Effective planning sets the stage for integrated action to take place, reduces the number of unforeseeable crises, promotes the use of more efficient methods and provides the basis for the managerial function of control. Thereby assuring focus on organizational objectives" (Edwin, 1969:49)

Revenue planning is the future estimation of revenue which displays the projected sales, income and future cash inflow. The revenue planning estimates are only a guide to the level of future revenues, not a guarantee. If the economy remains strong, the planning estimates are likely to underestimate future revenues. But, if the economy fails to perform at the high level anticipated in the control, the planning estimates will overstate future revenues. The revenue planning process is a necessary part of overall profit planning and control (PPC) because (a) it provides for the basic management decision about marketing (b) based on those decisions, it is an organize approach for developing a comprehensive sales plan. If the revenue plan is not realistic, most, if not all of the other parts of the overall profit plan also are not realistic. Therefore, if the management believes that a realistic revenue plan cannot be developed; there is little justification for PPC.

Analysis of revenue planning is a crucial part of overall profit planning of business enterprises. Poor system of planning adversely affects profit planning. Thus, periodical analysis and review of revenue planning is necessary in order to ensure smooth functioning of enterprises.

Budgeting is the key to financial planning and control. Though profit planning is the essence of management and revenue planning is the starting point of overall planning process. Therefore, every business and non business organization should prepare revenue plan which is prepared on the basis of sales forecast. Systematically and properly prepared revenue planning only plays vital role for effective utilization of resources and control system.

Cash is the most important assets for the operations of the business. It is an idle and non earning asset. Therefore, the firm should keep sufficient cash, neither more nor less. More cash balance reduce the rate of return

on equity and hence the value of the firm's stock. The term cash includes coins, currency and cheques held by the firm and balances in its bank account. Sometimes non cash items such as marketable securities or bank deposits are also included in cash. Cash management involves managing the cash of the firm to maximize firm's value by keeping ideal cash balance. The task of cash management is to determine how much cash a firm should have on hand at any time to ensure normal business operations continue without interruption. If a firm holds more cash than its requirements, shareholder's returns will not be maximized. Cash management involves several functions such as cash planning, managing cash flows, identifying optimal cash balance and proper utilization of cash etc. The essence of cash management is the preparation of cash budget and cash flow statement which projects and identifies the inflow and outflow of cash. Thus, cash budget is also a key to the overall comprehensive profit plan. It provides measures and guide lines for effective control of cash.

1.2 Introduction of the Organization:

Telecommunication is one of the public utility enterprises in Nepal. At a short glance of the telecommunication history in Nepal, its development began from a very few lines reaching to huge exchanges in Kathmandu valley and other parts of the country. Telecommunication development and urbanization went hand in hand, though rate of telecommunication growth is higher than that of urban population in recent years. After a stunning series of development, Nepal telecommunication was finally established in 2031 Ashad 1st under Telecommunication Act 2028 as a public enterprise to provide reliable and affordable telecommunication.

The main purpose of establishment of Nepal Telecommunication (NTC) in Nepal was to strengthen the administrative efficiency of the government. It was later expanded to serve the needs of development of various sectors as expansion of foreign trade, tourism development and international integration. NTC was dissolved and converted to Nepal Doorsanchar Company Limited (Nepal Telecom) from 1st Baisakh 2061 (13th April 2004). The new company was registered with the Company Registrar Office on 2060-10-22 under company act 2053. However, the company shall also be known to general public by the name NEPAL TELECOM as registered trademark (NTC, 2002-03:3).

Nepal Telecom, as a progressive, public spirited and consumer responsive entity, is committed to provide nationwide reliable telecommunication services to serve as an impetus to the social, political and economic development of the country. Nepal Telecom's vision is to remain as a dominant player in the telecommunication sector of the country while extending reliable and affordable telecommunication services to all regions including the remotest area of the country and at the same time retaining its present sound financial health even in the coming competitive environment (NTC, 2002-03:3).

Nepal Telecommunication Corporation (NTC), renamed Nepal Telecom now is a partly government owned public sector entity, administered by a government appointed Board of Directors, which includes a chairman and four voting members. The company is an inevitably accountable autonomous and organized institution.

The history of rural telecommunication begins from late 1980's and this service is playing the role of catalyst for the economic development. Many place getting initial services of a single line VHF services were already passed to many phases like VHF-MARTS-CDOT 500 line

change with in the period of less than 15 years before. The fast urbanization process is creating high demand of telephone lines throughout the country and all small exchanges are running to their fullest capacity with in a year of their installation. Globalization has made it compulsory to integrate all domestic market with regional and global markets and the fast growth of telecommunication is essential for such integration (NTC, 2002-03:17).

The study mostly deals with the revenue planning and cash management of Nepal Telecom. Also the study 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 the 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 country retaining its present financial health even in the coming competitive environment. "Goal of NTC is to provide cost effective telecommunication services to every nooks and corner of the country" (NTC, 2007:03). It was later expanded to serve the needs of development of various sectors as expansion of foreign trade tourism development and international integration.

The other objectives adopted by Nepal Telecom are as follows:

- a) To provide high quality, reliable and economic services including remotest area of the country.

- b) To exchange information for the preparation of fundamentals for development of the nation.
- c) To establish telecommunication links among the countries around the world.
- d) To participate the publics in telecommunication so as to uplift their living standard.
- e) To provide prompt services to the places of demand.
- f) To introduce new technologies and cope up with time and tradition.

Nepal Telecom has operating its activities with its distinct vision and mission. "Vision of Nepal Telecom is to remain a leading player in telecommunication sector in the country while also extending reliable and cost effective services to all" (NTC, 2007:03).

The mission of the company is: "Nepal Telecom, as a progressive, customer spirited and consumer responsive entity, is committed to provide nation-wide reliable telecommunication services to serve as an impetus to the social, political and economic development of the country" (NTC, 2007:03).

Since, telecommunication is informative services, many fields such as agriculture, business, transaction and other socio-economic sectors use these services heavily. Telephony has now plunged into the wide world of informative and competitive age simultaneously establishing itself in the strangest dimension of technology as a heartthrob of general people. Telecommunication has leaded the information world from traditional to modern system. Nepal Telecom is the role institution in the state to provide telephone services. It has offered 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 growing presence of the private sector in business directly or indirectly related to telecommunication has forced Nepal Telecom to find alternative strategies in taking the emerging competition. Revision of tariff, customer care and introduction of value added services have now become the top priority in this competitive telecommunication market introduced by the policy of Nepal Government. GSM mobile phone capacity has been increased and expanded to the far western region. Recently, the company has introduced low tariff structure in PSTN, prepaid and post-paid mobile has shown growing demand. The ongoing East West Highway Optical Fiber Link Project has established a reliable alternative backbone link in addition to the existing microwave radio network. This will play a major role in support of the development of the information technology in the country, aiding its participation in the global economy and ultimately helping in the poverty alleviation.

Under the ongoing Tenth National Plan, Nepal Telecom has been launching rehabilitation and expansion program in its rural network. The program is aimed at replacing some of its exiting rural telecommunications network, which is now obsolete or damaged due to the recent political insurgency or with exhausted capacities. The company has plans to expand new network. There by will help in modernizing the overall national telecommunication infrastructure of Nepal.

Nepal Telecom generates its revenue by providing different type of services such as basic fixed line services, GSM mobile, internet, lease line etc. Apart from these 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. Review of the data related to annual revenue and annual cash collection of the past few years, here a view that corporation did remarkable effort considering the defaults of dues in other business in our country (Pokhrel, 1st Anniversary Souvenir, 2005:59-60).

Nepal Telecom has two different ways of revenue collection process.

(I) Collection Through Counters.

In smaller exchanges collection is being done manually but in almost 50 places collection of cash has been done through online cash collection process, which has for 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 started to collect its revenue through the banks also. Nepal Investment Bank, Bank of Kathmandu, Kumari Bank are collecting revenue through their counters. As a result, subscribers are able to pay their dues at their nearest bank's counters as per their convenience. Similarly also in PSTN's case, here in Kathamandu Valley, already Bank of Kathmandu, Kumari Bank, Nepal Investment Bank, Nepal Industrial and Commercial Bank, Machhapuchare Bank, Laxmi Bank, Rastrya Banijya Bank are collecting the revenues for Nepal Telecom and in near future few other banks will also be participating in PSTN revenue collection process.

Like wise in 50 places, different banks visit Company premises to collect the cash. And these banks are providing interest in the range of 2.50 to

4.25 percent per annum. Now, Nepal Telecom has adopted different strategies which deserve appreciation in revenue collection such as advance payment facility, weekly bill payment facility for high paying subscribers, anywhere payment facility in Kathmandu Valley, introduction of token system at counters. Presently, Nepal Telecom has made a policy for disconnect telephone line for that customer who doesn't pay in time (3.5% fine) that generates excess cash to the company.

Nepal Telecom was fully government owned and government controlled organization in past years. After the restoration of democracy in 2047 B.S, government adopted privatization policy in order to privatize state controlled enterprises. In the same way, "in an attempt to privatize the hundred percent state owned NT, the incumbent and leading telecom operator in Nepal, the government has decided to offload its holding in NT by providing 5 % of total shares to employees of NT and 10 % of total shares to general public. Currently paid up capital of NT is the Nepalese Rupees 15 Billion (150,000,000 number of ordinary shares @ Rs. 100 per share). As decided by Nepal Government, 5 % of total share i.e. 7,500,000 number of shares would be distributed to employees at a discounted rate of Rs. 90 per share. Regarding sale of shares to general public, minimum price of each share is fixed at Rs. 600 for public bidding. An individual or organization is allowed to buy minimum 100 shares and maximum 5000 shares. As per Nepal Government decision, these share will be allotted to applicants who quote the highest price (Higher bidder winning more shares). After these arrangements, NT will have employees as well as general public participation in its ownership structure. Hopefully, participation of employees and general public in company's ownership would strengthen its mission of remaining leading telecom operator in Nepal" (NTC, 2007:14).

In overall, 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 communications network plays a vital role in supporting the growth of business in IT field. Nepal Telecom's responsibility is to provide reliable and affordable telecommunications services throughout the country. Nepal Telecom fulfills this responsibility and contributes towards the overall Scio-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.

1.3 Statement of the Problem:

The development of a nation depends upon the proper utilization of the resources available in the country. In Nepal, there are various public utility enterprises established in many sector to utilize the resources for the overall development of the country with effective goal and objectives. But majority of the public enterprises have not been able to operate their activities without loan grant and donation from the foreign government and donor agencies because of their poor financial performance. Many public enterprises have been found preparing long term and short term plans on the Ad-hoic basis. The main causes of the failure of such public enterprises are the lack of integration of activities, less utilization of capacity, ineffective and inappropriate action plan, strategies and control mechanism.

Nepal Telecommunication is one of the largest organizations in the country with its leading capital investment. It is a successful public

company functioning in the public utility sector. There is limited market competition for the company as other private enterprises faces and it deserves higher future scope of production and expansion. Thus, it should earn good net profit, which may contribute for the development of the nation. Although its primary objective is to provide telecommunication facility to the people, it must generate profit to satisfy its stakeholders. The success and failure of any enterprises is measured on the basis of profitability or surplus. The profit depends on the systematic planning (budgeting) and its proper implementation.

Revenue planning and 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, they are still facing the problem of cash management (Bajracharya, 1990:23).

Cash management in public utility of Nepal is primarily based on the traditional practices, lacking in a scientific approach. A more serious aspect of cash management has been the absence of any formalized system of planning and cash budgeting in many enterprises do have the practice if forecasting cash requirement or a form basis (Bajracharya, 1990:23).

Most of the enterprises had periodic accumulation of surplus cash and corresponding cash shortage form time to time. Most of the Nepalese public enterprises never thought of the source of current assets i.e. cash and usually depends on Nepal Government for it. This existing problem in the area of finance is mostly directed towards the management of cash rather than in any other area. Nepal Telecom has also suffered from problem of efficient cash management. This study therefore, attempts to

have an insight over the problem of revenue planning and cash management. Basically the research intends to explore the following problems.

- a) What is the present trend of revenue planning in NTC?
- b) Revenue planning in NTC effective?
- c) Are the budgeted and actual revenues in NTC consistent?
- d) Is the NTC's production (supply) based on sales (demand)?
- e) Has The company maintained optimal cash balance?
- f) Could Nepal Telecom make better utilization of excess cash amount by investing in marketable securities?

1.4 Objectives of the Study:

The main objective of the study is to analyze revenue planning and cash management of NTC. To identify problems and recommend possible remedial measures, therefore, the major objectives of the study are as follows.

1. To study the pattern of revenue planning of NTC.
2. To analyze the gap between the budgeted and actual revenue.
3. To review and examine the cash management aspect of NTC.
4. To make recommendations for revenue planning and cash management of NTC based on the study results.

1.5 Significance of the Study:

Analysis of revenue planning and cash management is a crucial part of overall profit planning of business enterprises. The main importance of the study lies on the role of revenue planning and cash management that considerably contributes to improve profitability and financial performance of NTC. The main purpose of the study is to forecast the

future events and to overcome or reduce risk by identifying the strength and weakness of the enterprise. This study will be useful to provide information and to draw attention of NTC management regarding what can be done for future planning and management of revenue.

This study made focused to analyze cash management in Nepal Telecom. It has also focused on sales revenue and how to improve its financial situation in various environments such as the competition in a wide, growing and challenging market. Cash management contributes to improve the profitability as well as the overall financial performance of an organization to help the best utilization of resources. Accomplishment of objectives in every organization depends upon the application of resources. If the cash management process of an organization is effective and result oriented that the pace of development naturally forwards in a usual manner. Profit is the most important indicator for judging managerial efficiency. For this, every organization has to manage its profit. The need of this study is to examine and check whether the Nepal Telecom is applying optimal cash or not. And, the study also shows whether there is consistency between planned sales and actual sales.

This study was concise, brief, practical data based, usable and valuable to the major parties interested in maximization through revenue planning and cash management. This will also serve as a reference for the further study and data collection. The study will be equally useful and beneficial to Nepal Telecom, Nepal Government, Board of Directors of Nepal Telecom, employees of Nepal Telecom and other stakeholders. Lastly it will provide relevant and pertinent literature for further research on the field of revenue planning and cash management. Thus, the study entitled "Revenue planning and cash management" is rewarding.

1.6 Limitations of the Study:

The study was confined only about revenue planning and cash management of Nepal Telecommunication. The following factors have limited the scope of this study.

-) The study was based on secondary data obtained from NTC's record.
-) The study was only concentrated on the revenue planning and cash management of NTC.
-) The study covers the analysis of only five fiscal years from 2004/05 to 2008/09.

1.7 Organization of the Study:

The study was segregated in to the five chapters, each defining to some aspect of the revenue planning and cash management.

First is introduction chapter. It included general background of the study, introduction of the organization, statement of the problem, objective of the study, need/significance of the study, limitations of the study and organization of the study.

Second is review of literature chapter. This chapter embarked conceptual framework like revenue planning and controlling, cash and cash management, cash management models, cash conversion cycle, credit management policy, cash flow statement etc. besides this it includes a theoretical outline and a short review of previous research done in revenue planning and cash management.

Third is research methodology. This chapter dealt with research methodology to be adopted for the study to satisfy the objectives of the

study. It consisted of introduction, research design, sample and population, sources of data, data collection procedure, methods and tools of data analysis.

Fourth is data presentation and analysis chapter. This chapter is most important and plays vital role in this study. This chapter dealt with presentation, analysis and interpretation of data as required by the objectives stated in this study. These collected data were analyzed and interpreted by the help of various statistical and accounting tools and techniques.

Fifth is summary, conclusion and recommendations chapter. This chapter contained summary, conclusion and recommendation.

Besides Bibliography and Appendix were included after fifth chapter.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Conceptual Framework

2.1.1 Revenue Planning:

Revenue planning is the future estimation of revenue which displays the projected sales, income and future cash inflow. In other word, revenue planning is the projection of future income in advance for a specific period. Revenue plan provides the basis for management decision about marketing and other activities. It can be said that it is an organized approach for developing a comprehensive sales plan.

The revenue planning estimates are only a guide to the level of future revenues, not a guarantee. If the economy remains strong, the planning estimates are likely to underestimate future revenues. But, if the economy fails to perform at the high level anticipated in the control, the planning estimates will overstate future revenues.

“The revenue planning process is a necessary part of PPC because (a) it provides for the basic management decisions about marketing, and (b) based on those decisions, it is an organized approach for developing a comprehensive sales plan. If the revenue plan is not realistic, most if not all of the other parts of the overall profit plan also are not realistic. Therefore, if the management believes that a realistic revenue plan cannot be developed; there is little justification for PPC. Despite the views of a particular management, such a conclusion may be an implicit admission of incompetence. Simply, if it is really impossible to assess the future revenue potential of a business, there would be little incentive for investment in the business initially or for continuation of it except for

purely speculation ventures that most managers and investors prefer to avoid”. (Welsch, Hilton, Gordon, 2000:171).

“The company earns profit only when it is able to sell its product and not when it produces them. It is no use of producing goods that are not likely to be sold and for which there is a limited demand. In some business, it is necessary to establish that the product will sell even before it is produced. In normal times of keen competition, the sales forecast must be realistic. It is undoubtedly true that past can provide experience and information which will be an assistance in estimating present and future revenue but care must be taken in presenting past facts to management so that incorrect conclusions may not be drawn there from” (Mohan, Goyal, 1992:10).

“The revenue plan should be designed to coordinate the efforts of the sales department, production department and all other departments. Many factors must be considered when sales budget is established, including sales trends, limitations on the supply of merchandise or the company's market, competing products, the expected amount of advertising, and general level of the economy. Since most of these unknown companies frequently maintain a specially trained staff to increase them” (Seiler & Robert, 1964:659-660).

“The logical starting point in developing the revenue planning is the estimates of sales. It does not follow, however, that the revenue estimation can be considered in isolation or that once the revenue estimates has been computed, the other elements of revenue and expenses will fall into place. There is circular relationship between sales and some expenses. In fact, the level or amount of certain expenses may have a considerable influence on the revenue. For example: the relationship between advertising and sales” (Finney, Miller, & Herbert 1963:389).

2.1.2 Factor Influencing Revenue Planning

The factors influencing the level of revenues may be classified as internal and external as follows:

2.1.2.1. Internal Factors

These include promotional aids, such as advertising, incentives to sales man, ability of the organization to satisfy demand, quantity of the finished product, changes in price etc.

2.1.2.2. External Factors

These include the fluctuations in the size of population, the general level of prosperity, the extent and severity of competition in the market, government policy and regulation. Changes in fashion and tastes, degree of competition expected from new product etc. Elasticity of demand for the product is of obvious importance if prices are expected to undergo a change (Varma & Agrawal, 1996:329-330).

2.1.3 Preparation of Revenue Planning.

A planner should complete the following steps for planning the revenue. They are listed below:

2.1.3.1. Development of Management Guidelines for Sales Planning:

All the management particularly in the sales planning process should be provided with specific management guidelines to be followed in revenue planning. Fundamentally, these guidelines should specify revenue-planning responsibilities. The purpose of these guidelines is to attain coordination and uniformity in the revenues planning process. The guidelines should emphasize enterprise objective, goals, and sales strategies. The guideline also should direct attention to such areas as

product emphasis, general pricing policies, major marketing strategies, and competitive position.

2.1.3.2. Sales Forecast:

One or more sales forecasts should be prepared. Each separate forecast should use different assumption, which should be clearly explained in the forecast. The management guidelines should provide the broad assumptions. Forecasting methods are broadly classified as a) quantitative b) technological c) judgmental. These forecasting methods include time-series smoothing, decomposition for time series, advanced time series, simple & multiple regression, and modeling. The forecasts should include strategic and tactical forecasts that are consistent with the time dimension.

2.1.3.3. Assemble Other Relevant Data:

In addition to step1 and step2, all other information relevant to developing a realistic revenue plan should be collected and evaluated. This information should relate to both constraints and opportunities. The primary constraints that should evaluate are: a) manufacturing capacity b) sources of raw materials and supplies, or goods for resale, c) availability of key people and a labor force, d) capital availability and e) availability of alternative distribution channels. These five factors require evaluation and coordination among the heads of the various functional areas in developing a realistic revenue plan.

2.1.3.4. Develop the Strategic and Tactical Sales:

Using the information provides in step 1, 2&3, the management develops a comprehensive revenue plan to do this, the planning process must be structured to maximize a) motivation of the sales force and b) realism in

the revenue plan. This process should recognize the importance of management goals both strategic and tactical. The process of developing a realistic revenue plan should be unique to each company because of the company's-its products, its distribution channels, and the competence of its marketing group. Four different participative approach widely used are characterized as follows; a) sales force composite b) sales division manager's composite c) executive decision and d) statistical approaches.

2.1.3.5. Securing Managerial Commitment to Attain the Goals in the Comprehensive Revenue Plans.

Top management must be fully committed to attaining the sales goals that are specified in the approved revenue plan. This commitment requires full communication to the sales manager of the goals: approved marketing plan and strategies by sales responsibilities. The commitment must be strong and ever present in day-to-day operations (Welsch, Hilton, & Gordon, 1999:176-182).

2.1.4 Cash Management:

Before knowing about 'Cash Management' it is better to know about 'Cash'. Cash is the money, which the firm can disburse immediately without any restriction. The term cash includes coins currency and cheques held by the firm and balance in its bank accounts. Sometimes near cash items, such as marketable securities is also included in cash.

Cash is the important current asset for the operations of the business organization and public organization. Cash is the basic input needed to keep the business running on a country's basis, it is also the ultimate output expected to be realized by selling the service or product manufactured by the firm. The firm should keep sufficient cash, neither more nor less. Cash shortages are disrupting the firm's manufacturing

operations while excessive cash is simply remaining idle, without contributing anything towards the firm's profitability. Thus, a major function of the financial manager is to maintain a sound cash position.

The term "Cash Management" is concerned with the management of current assets and current liabilities of the business, which is necessary for day-to-day operation. "Cash management is concerned with the decision regarding the short-term funds influencing overall profitability add risk involving in the firm. The management of cash has been regarded as one of the conditioning factors in the decision making issues" (Saksena 1990:164). It is no doubt, very difficult to point out as to how cash is needed by a particular company, but it is very essential to analyze and fine out the solution to make an efficient use of funds for minimizing the risk of loss to attain profit objectives.

Good cash management means:

- Knowing when, where, and how your cash needs will occur,
- Knowing what the best sources are for meeting additional cash needs and
- Being prepared to meet these needs when they occur, by keeping good relationships with bankers and other creditors.

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. We won't be able to stay in business if we can't pay our bills for any extended length of time.

Therefore, a cash flow analysis should be made on a regular basis, and use cash flow forecasting so that necessary steps to head off cash flow

problems can be taken. Many software accounting programs have built in reporting features that make cash flow analysis easy. One of the most useful strategies for business is to shorten cash flow conversion period so that business can bring in money faster.

2.1.5 Functions of Cash Management

There are various functions of cash management. They are as follows:

2.1.5.1 Cash planning: Cash flows (inflows and outflows) should be planned to project cash surplus or deficit for the period. Cash budget is prepared for this purpose.

2.1.5.2 To design and manage cash flows: The cash flows (inflows and outflows) should be properly managed. The inflows of cash should be accelerated and the outflows of cash should be decelerated as possible.

2.1.5.3 To maintain cash and marketable securities in amounts close to optimal level: The firm should try to maintain the appropriate level of cash balances. The cost of excess cash and the danger of cash deficiency should be matched to maintain the optimal level of cash balances.

2.1.5.4 To place the cash and marketable securities in the proper institutions and in the proper forms: The idle cash or precautionary cash balances should be properly invested to earn profits. The firm should take the appropriate decision about the division of such cash balances between bank deposits and marketable securities.

2.1.6 Importance of Cash Management:

'Cash' the most liquid asset, is of vital importance to the daily operations of business firm. "Cash is both the beginning and the end of the working

capital cycle- cash, inventories, receivable and cash. Its effective management is the key determinant of efficient working capital management. Cash like the blood stream in the human body gives vitality and strength to a business enterprise. The steady and healthy circulation of cash through out the entire business operation is the business solvency.” According to J.M. Keynes ‘it is cash, which keeps a business going. Hence, every enterprise has to hold necessary cash for its existence. In a business firm ultimately, a transaction results in either an inflow or an outflow of cash. In an efficient managed business, static cash balance situation generally does not exist. Adequate supply of cash is necessary to meet the requirement of the business. Its shortage may stop the business operations and may degenerate a firm into a state of technical insolvency and even of liquidation. Through idle cash is sterile; its retention is not without costs. Holding of cash balance has an implicit cost in the form of its opportunity costs. ‘The highest the level of idle cash the greater is the cost of holding it in the manner of loss of interest, which could have been earned either by investing it and securities or by reducing the burden of interest charges by paying off the loans taken previously. If the level of cash balance is more than the desired level with the firm, it shows mismanagement of funds. Therefore, for its smooth running and maximum profitability proper and effective cash management in a business is of paramount importance.

Efficient and optimal cash flow management is important to all firms. “Cash is a non earning asset in the sense that although it is needed to pay for labor and raw materials to buy fixed assets, to pay taxes, to serve debt, to pay dividends and so on. Cash management is to reduce cash holdings to the minimum necessary level to conduct business” (Weston & Copeland, 1981: 428).

Business analysts report that poor management is the major reason why most businesses fail. It would probably be more accurate to say that business failure is due to poor cash management. For this, financial manager should take a look at the cash flow process to find out. The starting point for avoiding a crisis is to develop a cash flow projection. Smart business owners know how to develop both short-term (weekly, monthly) cash flow projections to help them manage daily cash, and long-term (annual, 3-5 year) cash flow projections to help them develop the necessary capital strategy to meet their business needs. They also prepare and use historical cash flow statements to gain an understanding about where all the money went.

2.1.7 Efficiency of Cash Management:

Cash performs number of functions as it makes payment possible. It serves to meet emergencies. But if cash is kept idle it contributes directly nothing to the earning of the corporation. As such corporation must adopt such a policy that makes optimum cash management possible. The financial manager of the corporation should try to minimize the corporations holding of cash while still maintaining enough to insure payment of obligation. "For improving the efficiency of cash management effective method of collection and disbursement should be adopted. Some methods for efficiency of cash management are briefly described below". (Van Horne, 1974:426)

2.1.7.1 Speedy cash collection:

A firm can conserve cash and reduce its requirement for cash balance if it can speed up its cash collection. Reducing the lag for gap between the times a customer pays his bill can accelerate cash collection and the time the cheque is collected and funds become available for use. Within this

time gap, the delay is caused by the mailing time. The amount of cheques sent by customer but not yet collected are called deposit float. The greater the deposit floats, the longer the time taken in converting cheque into usable funds. There are mainly two techniques, which can be used to save mailing and processing time which are concentration banking, lock box system.

2.1.7.2 Concentration Banking:

Concentration banking is a system of operating through number of collection centers, instead of a single collection centre centralized at the firm head office. In this system the firm will have a large number of bank accounts operated in the area where the firm has its branches. All branches may not have the collection centers. The collection centers will be required to collect cheques from customers and deposit them in their local bank accounts. The collection centre will transfer funds above some predetermined minimum to a control generally at the firm's head office, each day. A concentration bank is one where the firm has a major bank account from which the firm makes usually the disbursement.

2.1.7.3 Slowing Disbursement:

Apart from speedy collection of account receivable the operation cash requirement can be reduced by slow disbursement of account payable. It may be recalled that a basic strategy of the cash management is delay payment as long as possible without impairing the credit rating of the firm. In fact, slow disbursement represents a source of funds requiring no interest payments. There are some techniques to delay payment is: avoidance of early payment centralized disbursement, float and accruals. Quick collection and slow disbursement accomplish the corporation with adequate cash in hand for longer periods. Effective control of

disbursement can result in a faster turnover of cash. Whereas the underlying objectives of collection are maximum acceleration, the objectives in disbursements are to slow them down as much as possible.

2.1.7.4 Cash velocity:

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

$$\text{Cash Velocity} = \frac{\text{Annual sales}}{\text{Average sales}}$$

2.1.7.5 Synchronized cash flows:

Situation in which inflow coincides with out flows, thereby permitting a firm to hold transaction balance a minimum.

2.1.7.6 Using Float:

Cheque written by the firm but not deducted from the bank records until they are actually received by the bank, possibly a matter of several days. Slag between the times, cheques is written until the time the bank receives it is known as float.

2.1.7.7 Transferring Fund:

There are two principal methods-wire transfer and electronic depository transfer cheques. With a wire an electronic depository transfer cheque (DTC) arrangement in the movement of funds, an electronic cheque image is processed through an automatic clearing house. The funds become available on business day later. From small transfer, a wire transfer may be too costly.

2.1.7.8 Minimum Cash Balance:

Corporations are required to keep a minimum cash balance requirement of a bank either for the service in record or in consideration of lending arrangement.

2.1.7.9 Overdraft System:

Systems where depositors may write cheques in excess of their balances with their banks automatically extend loans to cover the shortage. Most of the foreign countries uses over draft system.

2.1.8 Different Techniques of Cash Management

2.1.8.1 Cash planning:

Cash planning can help to anticipate future cash flows and needs of the firm and reduces the possibility of idle cash balance and cash deficiencies. Cash planning is a technique to plan for and control the use of cash. The forecasts may be based on the present operation or anticipated future operation. Cash plan is very crucial in developing the overall operation plans of the firm. Cash planning may be done on daily, weekly or monthly basis. It depends upon the size of the firm and philosophy of management.

2.1.8.2 Cash budget:

Cash budget is the most significant device to plan and control cash receipt and payment. A cash budget is a summary statement of the firm expected cash inflows and outflows over a projected time period. This information helps the financing of these needs and exercise control the cash and liquidity of the firm.

The time horizon of cash budget may differ in various firms. A firm whose business is affected by seasonal variations may prepare monthly cash budget. Daily or weekly cash budget should be prepared for determining cash requirement. If cash flows shows extreme fluctuation, cash budget for longer interval may be prepared if cash flows are relatively stable.

2.1.8.3 Short term Cash forecasting:

There are most two common used methods of short term cash forecasting are as follows.

a. Receipt and disbursement forecast

The prime aim of receipt and disbursement forecasts is to summarize the flows during a predetermined period. In case of those companies where cash items of income and expenses involves this method is favored to keep a close control over cash.

b. Adjusted net income method

This method of cash forecasting involves the tracing of working capital flows. Sometime it is also called the sources and uses approach. Two objectives if the adjusted net income approaches are to project the company's need for cash at some future date and to show whether the company can generate this money internally or not, how much will give to either borrow or rise in the capital market. In preparing the adjusted net income forecasts items such as net income, depreciation, taxes, dividend etc. can easily be determined from the company's annual operating budget.

2.1.8.4 Long term cash forecasting:

Long term cash forecasting are prepares to give an idle of the company's financial requirement of distant future. Once a company has developed long term cash forecast, it can be used to evaluate the impact of say new product development on the firm financial condition three, five or more years in future. The major uses of the long term cash forecasts are company's future financial needs, especially for it working capital requirement, to evaluate proposed capital projects and it help to improve corporate planning. Long term cash forecasting not only reflects more accurately the impact of any recent acquisitions but also foreshadows financing problems.

2.1.9 Determining the Optimum Cash Balance:

Financial manager responsibilities are to maintain a sound liquidity position of the firm. So that dues may be settled in time. The firms need cash not only to purchase raw materials and pay wages but also for payment of dividend, interest, taxes and countless other purpose. The text of liquidity is really the availability of cash to meet the firm obligations when they become due. Thus the cash balance is maintained for transaction purpose and an additional amount may be maintained as a safety stock. The financial manager should determine the appropriate amounts of cash balance. A trade off between risk and return influences such a decision. If the firm maintains small cash balance, its liquidity position becomes weak and suffers from a capacity of cash to make payment. But investing released funds in some profitable opportunities can attain a higher profitability. If the firm maintains a high level of cash balance it will have a sound liquidity position but forego the opportunity to earn interests. Thus the firm should maintain an optimum cash balance to find out the optimum cash balance the transaction costs and risk of too

small a balance should be matched with the opportunity costs of too large a balance. The figure shows this trade-off graphically.

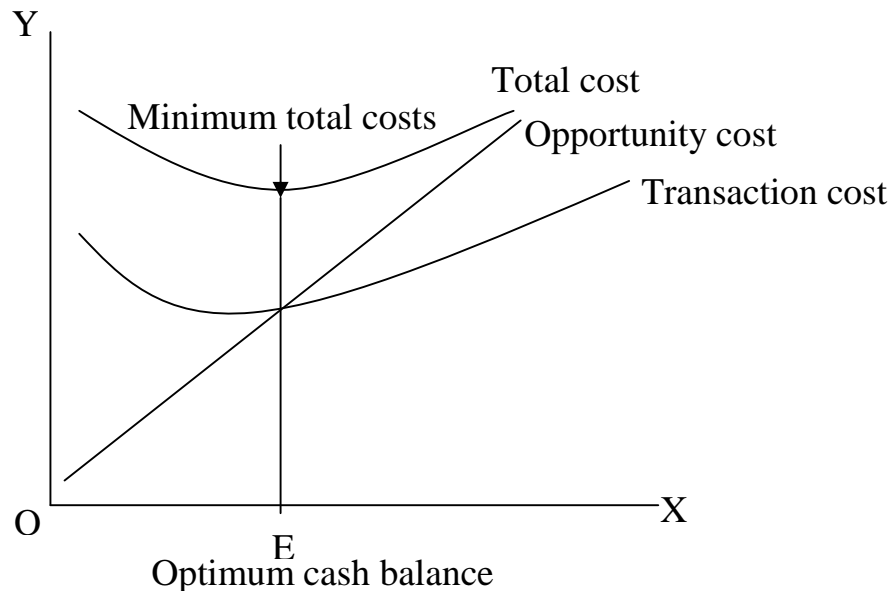


Figure no. 2-1 Determination of Optimum Cash Balance (Baumol, 1952:545)

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

2.1.10 Cash Management Models:

Optimal balance of cash is determined by the cost-benefit trade off between interests, income, transaction costs if no compensating balance were required. However, with the existence of conversion delays and positive transaction cost, the firm would prefer to hold some cash balance. There are different types of analytical models for cash management.

1. Baumol Model
2. Miller-Orr Model

3. Orgler's Model

Baumol Model

Baumol's Model, also known as Inventory model, is one of the simplest models to determine optimal cash under the condition of certainty. According to this model carrying cost of holding cash is balanced against the fixed costs of transferring marketable securities into cash or cash into marketable securities.

The purpose of this model is to determine the minimum cost amount of cash that a financial manager can obtain by converting securities to cash considering the cost of conversion and the counter-balance cost of keeping idle cash balances which otherwise could have been invested in marketable securities.

The total cash associate with cash management, according to this model, has two elements: (i) Cost of converting marketable securities into cash and (ii) the lost opportunity cost.

The conversion costs are incurred cash times marketable securities are converted into cash symbolically, total conversion cost per period.

$$=Tb/C..... (i)$$

Where,

b= cost per conversion assumed to be independent of the size of transaction

T= total transaction cash needs for the period.

C= Value of marketable securities sold at cash conversion.

The opportunity cost is derived from the lost/forfeited interest rate that could have been earned on the investment of cash balances. The total

opportunity cost is the interest rate times the average cash balance kept by the firm. Symbolically, the average lost opportunity cost

$$=I(C/2)\dots\dots\dots (ii)$$

Where,

I= Interest rate that could have been earned

C/2= Average cash balance i.e. the beginning cash plus the ending cash balance of the period divided by 2

The total cost associated with cash management comprising total conversion cost plus opportunity cost of not investing cash until it is needed in interest-bearing instruments can be symbolically expressed as

$$I(C/2+ Tb/c)\dots\dots\dots (iii)$$

To minimize the cost, therefore the model attempts to determine the optimal conversion amount i.e. the cash withdrawal that costs the least. Symbolically, the optimal conversion (c*) amount

$$C^*= 2bT/i\dots\dots\dots (iv)$$

The model in terms of equation (iv) has important implications. First, as the total cash needs for transaction rises because of expansion/diversification etc., the optimal withdrawal increases less than proportionately. This is the result of economy of scale in cash management. Each project does not need its own additional cash balance. It only needs enough added to the general cash balance of the firm to facilitate expanded operations. Secondly, as the opportunity interest rate increases the optimal cash withdrawal decreases. This is to because as increases it is more costly to forfeit the investment opportunity and financial managers want to keep as much cash invested in securities for as long as possible. They can afford to do this as the higher interest rates

because at those higher rates any shortfall costs caused by a lower withdrawal are offset.

In sum, the model of cash management is very simplistic. Further, its assumption of certainty and regularity of withdrawal of cash do not realistically reflect the actual situation of any firm. In addition, the model is concerned only with transaction balances and not with precautionary balances. In addition, the assumed fixed nature of the cash withdrawals is also not realistic.

Nevertheless, the model does clearly and concisely demonstrate the economics of scale and the counteracting nature of the conversion and opportunity costs, which are undoubtedly major considerations in any financial manager's cash management strategy (Baumol, 1952:545-556).

The point on minimum cost will be justified by the following figure

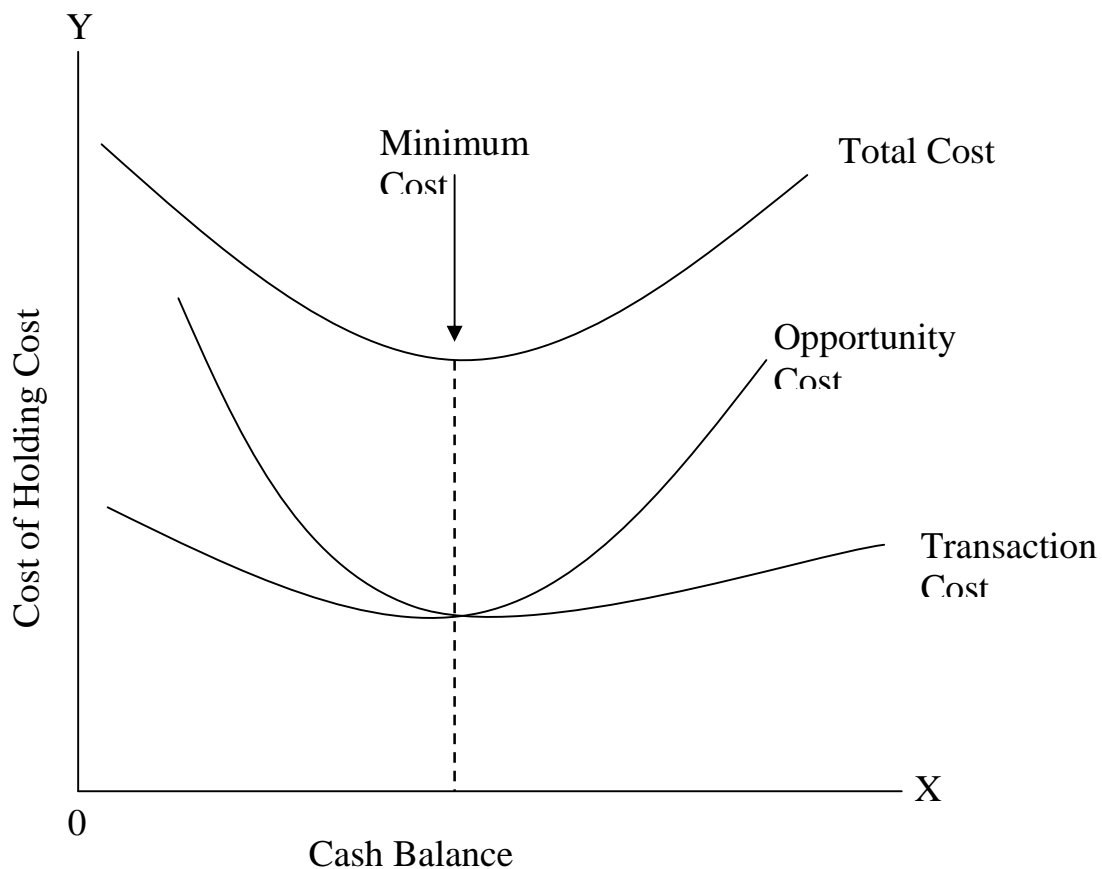


Figure no. 2-2 Baumol's Model Showing Minimum Cost of Holding Cash

$$\begin{aligned} \text{Total Cost} &= \text{Holding Cost} + \text{Transaction Cost} \\ &= (\text{Average Cash Balance} * \text{Opportunity Cost}) + (\text{Cost per} \\ &\quad \text{Transaction} * \text{No. of Transaction}) \end{aligned}$$

$$\text{Or, Total Cost} = b (T/C^*) + I(c^*/2)$$

Miller-Orr Model

When cash balance fluctuates unpredictably, we use control theory to determine optimal behavior regarding cash holdings. Stochastic model/ Miller-Orr Model assume that cash flows are uncertain and unknown in advance. Theoretically, there are number of approaches to control theory. Among them, Miller-Orr Model, which specifies two controls limited i.e. upper and lower limit.

The objective of cash management according to Miller-Orr is to determine the optimum cash balance level, which minimizes the cost of cash management.

Symbolically,

$$C = bE(N)/t + jE(M) \dots \dots \dots (i)$$

Where

b= the fixed cost per conversion.

E (M) =the expected average daily cash balances.

E (N) = the expected number of conversions.

t= the number of days in the period.

j= the lost opportunity costs.

C= total cash management costs.

The Miller-Orr model is in fact an attempt to make the Baumol model more realistic as regards the pattern of cash flows. As against the assumption of uniform and certain levels of cash balances randomly

fluctuate between an upper bound (h) and a lower bound (o). When the cash balances hit the upper bound (h), the firm has too much cash and should buy enough marketable securities to bring the cash balances back to the optimal bound (z). When the cash balances hit zero, the financial manager must return them to the optimum bound (z) by selling converting securities in to cash. According to the Miller-Orr model, as in Baumol Model, the optimal cash balance (z) can be expressed symbolically as

$$Z = \sqrt[3]{(3b^2)/4i + L} \dots \dots \dots (ii)$$

Thus, as in Baumol model, there are economies of scale in cash management and the two basic costs of conversion and the lost interest that have to be minimized. Miller-Orr model also specifies the optimum upper boundary (h) as three times the optimal cash balance level such that

$$\text{Upper Limit (h)} = 3Z - 2L \dots \dots \dots (iii)$$

$$\text{Average Cash balance} = (h + Z)/3$$

Further, the financial manager could consider the use of less liquid, potentially more profitable securities as investments for the cash balances in excess of cash (Miller & Orr, 1966:413-435).

Orgler’s Model

According to this model, an optimal cash management strategy can be determined through the use of a multiple linear programming model. The constriction of the model comprise three sections:

- I. Selection of the appropriate planning horizon
- II. Selection of the appropriate decision variables
- III. Formulating of the cash management strategy itself

The advantage of linear programming model is that it enables co-ordination of the optimal cash management strategy with the other operations of the firm such as production with less restriction on working capital balances. The model basically uses one-year planning horizon with twelve month periods because of its simplicity. It has four basis sets of decisions variables which influence cash management of a firm and which must be incorporated into the linear programming model of the firm. These are: (i) payment schedule, (ii) short term financing, (iii) purchase and sale of marketable securities and (iv) cash balance itself.

The formulation of the model requires that the financial manager first specify an objective function and then specify a set of constraints. Orgler's objective function is to minimize the horizon value of the net revenues from the cash budget over the entire planning period using the assumption that all revenue generated is immediately re-invested and that any cost is immediately financed. The objective function recognizes each operation of the firm that generates cash inflow or cash outflows as adding or subtracting profit opportunities for the firm is cash management operations. In the objective function decision variables which cause inflows such as payments on receivables have positive co-efficient, while decision variables which generate cash inflows, such as interest on short-term borrowings have negative co-efficient. The purchase of marketable securities would for example produce revenue and they have a positive co-efficient while the sale of those securities would incur conversion costs and have a negative co-efficient. A very important feature of this model is that it allows the financial managers to generate cash management with production and other aspects of the firm (Orgler: 1970:305).

2.1.11 Cash Conversion Cycle

Cash conversion cycle, also known as asset conversion cycle, net operating cycle or just cash cycle, is a ratio used in the financial analysis of a business. The higher the number, the longer a firm's money is tied up in operations of the business and unavailable for other activities such as investing. The cash conversion cycle is the number of days between purchasing raw materials and receiving the cash from the sale of the goods made from that raw material.

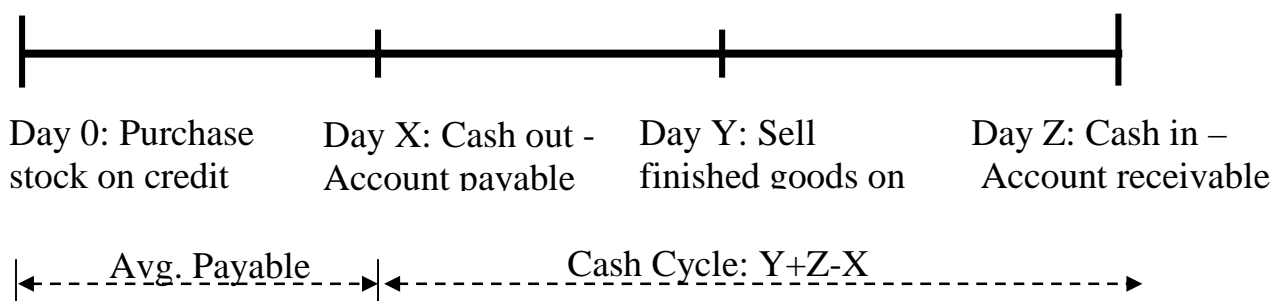
Cash conversion cycle = Average stockholding period (in days) + Average receivables processing period (in days) – Average payable period (in days)

Where,

Average stockholding period (in days) = closing stock / average daily purchases.

Average receivables processing period (in days) = accounts receivables / average daily credit sales.

Average payable processing period (in days) = accounts payable / average daily credit purchases.



The duration between the purchase of a firm's inventory and the collection of accounts receivable for the sale of that inventory, also known as cash cycle.

Cash Conversion Cycle = Inventory Processing Period + Days to Collect Receivables.

2.1.12 Credit Management:

Credit policy can have significant influences on sales. In theory, the firm should lower its quality standard for accounts accepted as long as the profitability of sales generated exceeds the added costs of receivable is determined by the volume of credit sales and the average period between sales and collection.

Firm's objective of credit management is not only to collect receivable promptly, but also to give an outlook to the benefit cost trade off involve in various aspects of accounts receivable management. The important criteria to maintain benefit cost trade off the firm's receivable management are to set up credit policies. A firm's policy provides guidelines for determining whether to expand credit to a customer and how much credit should be given to the customer. Collection policies decision includes three dimensions.

I) Credit Standards

- a) Sales revenue
- b) Investment in accounts receivable
- c) Bad debt expenses

II) Credit Terms

- a) Cash discounts
- b) Cash discount period
- c) Credit period

III) Collection Policies

- a) Correspondence
- b) Telephone calls
- c) Personal visits
- d) Legal action

2.1.13 Cash Flow:

Cash flow simply refers to the flow of cash into and out of a business over a period of time. Watching the cash inflows and outflows is one of the major management tasks of an owner. The outflow of cash is measured by those cheques of transactions that will write every month to pay salaries, suppliers, and creditors. The inflows are the cash, which receive from customers, lenders and investors. Positive cash flow means the cash coming “in” to the business is more than the cash going “out” of the business; the company has a positive cash flow. A positive cash flow is very good and the only worry here is what to do with the excess cash. Negative cash flow means the cash going “out” of the business is more than the cash coming “in” to the business; the company has a negative cash flow. A negative cash flow can be caused by a number of reasons. For example: too much or obsolete inventory or poor collections of accounts receivable can be the cause of short of cash. If the company can’t borrow additional cash at this point, the company may be in serious trouble.

A Cash Flow Statement is typically divided into three components. These components are stated below:

Operating Cash Flow:-

Operating cash flow, often referred to as working capital, is the cash flow generated from internal operations. It is the cash generated from sales of

the product or service of business. It is the real lifeblood of business, and because it is generated internally, it is under our control.

Investing Cash Flow:-

Investing cash flow is generated internally from non-operating activities. This component would include investments in plant and equipment or other fixed assets, nonrecurring gains or losses or other sources and uses of cash outside of normal operations.

Financing Cash Flow:-

Financing cash flow is the cash that flows to and from external sources; such as lenders, investors and shareholders. A new loan, the repayment of a loan, the issuance of stock and the payment of dividend are some of the activities that would be included in this section of the cash flow statement.

2.1.14 Cash Flow Projection

A cash flow projection is a forecast of the difference between cash coming “in” the business and cash going “out” of the business. The estimation or projection of cash flow is a powerful management tool for business. If we were to choose one financial management tool that we use on a routine basis, the cash flow projection and cash flow analysis would be the one to choose.

By knowing your cash position now and in the future, you can:

- a) Make sure business have enough cash to purchase sufficient inventory for seasonal cycles;
- b) Take advantage of discounts and special purchases;
- c) Properly plan equipment purchases for replacement or expansion;

- d) Prepare for adequate future financing and determine the types of financing (short-term credit line, permanent working capital, or long-term debt).
- e) Impress lenders with ability to plan and repay financing.

Moreover, it just makes good business sense to know where you are and where you are going with your company. A cash flow projection can help to do this. For a new or growing business, the cash flow projection can make the difference between success and failure. For an ongoing business, it can make the difference between growth and stagnation.

The cash flow projection shows how cash will flow in and out of the business and enables firms to budget the cash needs of the business over a period of time. The ability to predict and plan cash outlays means that firms won't be forced to resort to unexpected borrowing to meet your cash needs. The lack of liquidity can be a killer- even for profitable business. Lack of profits won't kill a business nearly as quickly as the lack of cash to pay your trade creditors. Remember, non-cash expenses such as depreciation can make your profits look negative, while your cash flow is positive. And you could also be showing a profit but have negative cash flow. That's why it is essential that we understand how to use a cash flow statement, and use it on a regular basis.

Preparing a cash flow projection is a something like preparing budget and balancing checkbook at the same time. Unlike the income statement, a cash flow statement deals only with actual cash transactions. Depreciation, a non-cash transaction, does not appear on a cash flow statement. Loan payments (both principal and interest) will appear on your cash flow statement since they require the outlay of cash.

Cash is generated primarily by sales. In most of the businesses, not all sales are cash sales. Even if firm's have a retail business and a large percentage of sales are cash, it is likely that firm offer credit (charge accounts, term payments, lay-a-way, and trade credit) to customers. Thus, we need to have a means of estimating when those credit sales will turn into cash-in-hand. Cash flow projections should be prepared for short-term (weekly, monthly), and long-term (annual, 3-5 years) planning purposes. They are used for deficient purposes and thus are generally prepared differently.

2.1.15 Cash Flow Statement (CFS)

The Cash Flow Statement attempts to analyze the transactions of the firm in terms of cash i.e., the transactions generating cash and using cash. The focus in the cash flow statement is on cash rather than on working capital. So, the CFS provides a summary of sources of cash and uses of cash in the firm. The sources of cash may be the cash profits earned by the firm, issue of capital for cash, issue of other securities for cash, borrowings, sale of assets or investments etc. The uses of cash may be purchase of assets, investment, and redemption of debenture or preference share, repayment of loan, payment of tax, dividend distribution etc. The excess of sources of cash over the uses of cash would be the increase in cash during the year and vice-a-versa. Thus, the CFS summarizes the cash inflows and outflows. (Rustagi, 2001:155)

2.2 Review of the Previous Research Work:

Revenue planning and cash management seems to be a new subject for research and study. The researcher could find limited researches made in the revenue planning and cash management for the partial fulfillment of the requirement for the Degree of Master in Business Studies. But many

researches have been made in the area of profit planning and control of Nepal Telecom. As profit planning and control covers some aspects of revenue planning, researches made on this area are taken in to consideration for the sake of review to examine how efficiently they apply profit planning and control tools. An attempt is made here to review some of the researches which have been submitted in the area of revenue planning and cash management and profit planning and control in the context of Nepal Telecom.

Lok Raj Bhatta (2006) has conducted a research on the topic of "Revenue Planning and Cash management of Public Utility in Nepal: A case study of Nepal Telecom," using secondary sources to collect the data and other necessary information. Mr. Bhatt has pointed out the following objectives and major findings.

The main objectives of the study were:

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

Major Findings:

- 1) Sales budget shows ISD sector's sales revenue is main revenue sources of Nepal Telecom, which contributes more than 40% in average.
- 2) Because of high demand of Telephone line there exist small gap between actual production and actual sales in lines.

- 3) Correlation and coefficient value shows that there are positive correlation 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.
- 4) Revenue per employee is increasing trend but Nepal Telecom has not incentive or motivation planning to promote employees.
- 5) The collection of receivable from the customers in the company is very small, decreasing year by year. It denotes efficiency of Nepal Telecom to collect its revenue in time. But A/R is low increasing in F/Y 2004/05. The decreasing trend of average collection period has shown the improvement of credit management and strict credit policy of the company.

Dependra Kumar Neupane (2001) has conducted a research on the topic "A study on profit planning in Nepal Telecommunication" using secondary sources to collect the data and other necessary information. Neupane has pointed out the following objectives and major findings.

The main objectives of the study were.

- 1) To examine the practices and effectiveness of profit planning in NT.
- 2) To examine the present comprehensive profit planning system applied by NT.
- 3) To analyze the various function plan formulated and implemented in NT.
- 4) To evaluate the targeted variable and actual variable of NT.
- 5) To analyze the financial position of NT with the help of ratio analysis.

The major findings were as follows:

- 1) There seems to be lack of systematic profit planning and control. Plans are prepared on 'ad-hoc' basis.
- 2) The sales revenue of NT is increasing year by year but the unit price of the increase is not stable.
- 3) Actual production lines are more variable than budgeted production line.
- 4) Profit pattern of NT is on increasing trend.
- 5) Variable analysis is completely ignored in the corporation.

Manjita Poudyal (2002) has conducted a research on the topic " Profit planning and control: A case study of Nepal Telecom. Mr. Poudyal has pointed out the following objectives and major finding.

The main objectives of the study were.

- 1) To examine the present comprehensive profit planning system applied by NTC.
- 2) To evaluate the targeted variable and actual variables of NTC.
- 3) To analyze the gap between budgeted and actual revenue.
- 4) To examine the financial performance the NTC.

The major findings were as follows.

- 1) NTC is lacking the proper System of Performance report.
- 2) NTC has not practices of control policy considered controllable and insoluble variables affecting the organization.
- 3) The sales plan and achievement is satisfactory to some extent.
- 4) Financial Performance of NTC is not so good.
- 5) NTC does not consider the use of flexible subjective.

Lingthep, Muna Devi (2009) has conducted a research on the topic " Profit Planning and Control in Agriculture Development Bank Limited".

Miss. Lingthep has pointed out the following objectives and major findings.

The main objectives were as follows:

- 1) To study and examine the financial performance of ADBL.
- 2) To analyze the various functional budget.
- 3) To evaluate present planning adopted by the bank.
- 4) To examine the variance between estimated and actual profit of the bank.
- 5) To provide suggestions for improvement in the overall profitability of the bank on the basis of study results.

The major findings of the study were as follows.

- 1) Specific goal and financial targets are not defined clearly to achieve the basis objectives of the bank.
- 2) The decision making process is highly centralized.
- 3) The bank has not practiced the short term and long term planning properly.
- 4) The revenue targets, in most of the year are under estimated. As a result there is high difference between target revenue and revenue achievement.
- 5) Actual revenue of the bank in the last years is in increasing trend, which shows the positive sign of the bank.
- 6) There is inadequate profit planning due to lack of planning experts.
- 7) Political situation is the major affecting factor to the banking activities.
- 8) Lack of investment in the productive sector, fluctuation of liquidity in the market, competition in the banking sector, strike, lockout and

unsuitable situation within country are also the major affecting factors to the banking activities.

- 9) Advanced training to the personnel is lacking.
- 10) Controlling functions of the branches are so far being carried out directly by head office, which may be difficult in the days to come because of its wide geographical coverage.
- 11) Bank's deposit collection is continuously increasing but loan disbursement is in decreasing trend.
- 12) Interest income of the banks is the highest among income items of the bank every year.

2.4 Research Gap:

Most of the past research studies were about profit planning system of public enterprise. The previous researches did not disclose which of the profit planning and control tools were in practices and which were not and why? The researcher could find only one research study so far that was related to the revenue planning and cash management of Nepal Telecom. But the research studies did not analyze the cash management in general of NTC. So, there exists a research gap between the present and past researches. This research was conducted to fill up this research gap.

This research is based in secondary data. This study has tried to indicate the role of revenue planning and cash management and how effectively NTC was practicing the revenue planning and cash management system. This study has analyzed the overall aspect of revenue planning and cash management by applying the different mathematical & statistical tools. Finally it concluded the various findings of research and recommendations for NTC.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 Research Design:

The research study was made to analyze the revenue planning and cash management of NTC. Hence, descriptive as well as analytical research designs were employed. Descriptive research is essentially a fact finding approach 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 microanalysis and appraisal of the data.

3.2 Coverage of Period and Data:

The study covers a time period of 5 years from F/Y 2004/05 to F/Y 2008/09. Data are taken from Nepal Telecom and the analysis is done on the basis of the available five years data.

3.3 Nature and Sources of Data:

This study was based on secondary data. However, primary data and information were obtained through informal discussions with executives and other related staffs of the NTC. Secondary data were collected from Nepal Telecom's publication (Nepal Telecom Anniversary Souvenirs, Shramik Spandhan, Monthly MIS Report, Budget Book, Monthly Bulletin, Strategic plan for Seventh phase of Nepal Telecom, Annual reports, balance sheet, profit and loss accounts, cost detail sheet), previous thesis and other relevant published and unpublished documents

and other related publications. The require data were also collected from the website of Nepal Telecom (i.e. www.ntc.nt.np).

3.4 Research Variables:

Sales revenue, production (telephone line capacity installation) capacity utilization, profit & loss, total assets, profit margin, total capital employed, account receivable (debtor), cash flows, capital expenditures relating to long term and short period of Nepal Telecom were the research variables of this present study.

3.5 Tools and Techniques Employed:

This research was confined to examine the revenue planning and cash management of NTC. Therefore, the collected data were presented and demonstrated in suitable tables, formats, diagrams, graph and charts. Such presentations were interpreted and explained whenever necessary. To analyze the secondary data collected from various sources different financial, statistical and mathematical tools are used.

The financial tools used were - net fixed to total assets turnover ratio, debtor turnover ratio, average collection period, sales to capital employed & working capital ratio, revenue per employee ratio, operating expenses ratio, operating profit ratio, net profit ratio, return on assets and return on equity ratio, cash flows, optimal cash models, budget, analysis of cash turnover, account receivable to cash and bank balance, break even analysis etc.

The statistical and mathematical tools used were - average, standard deviation, coefficient of variation, correlation coefficient regression analysis, percentage and mean etc. All the data and information were

collected from secondary sources which were properly synthesized, arranged, tabulated and calculated to serve the objectives of the study.

3.6 Research Procedure:

The research procedure includes the following steps for the present study:

- I. Collection of various books and other publications relevant for the study.
- II. Assimilation of useful secondary data.
- III. Description and analysis of collected data in light of theoretical basis.
- IV. Tabulation and presentation of data through the tables, charts, graphs etc.
- V. Analysis of data by using approved financial, statistical and mathematical tools.
- VI. Extraction of valuable conclusions and recommendations.

CHAPTER- IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Revenue Trend of Nepal Telecom:

Revenue plan is the key factor in profit planning and control. Unless there is a realistic and practical revenue plan one can not be sure of accuracy and practicability of other elements of profit plan.

4.1.1 Revenue Budget of Nepal Telecom:

Revenue plan is prepared on the basis of sales forecast. Revenue plan formulation is the primary step in developing the overall plan procedure. Revenue is the primary source of cash and all other functional plans are prepared on the basis of revenue budget.

Revenue budget is the primary and important steps as well as the primary source of information which can be used in preparing functional budget. The production, additional capital, manpower requirement, material requirement cash requirement are based on the sales revenue budget. The sales plan is the basic steps which opens the door of financial plan. Efficiency of planner or planning expert can be evaluated from the comparison between actual of planned sales.

The sales unit determines the volume or quantity of final products to be produced. Labour, production and other expenses budgets are prepared on the basis of production volume. So, it can be said that the sales plan is the backbone of the profit plan and cash management. Sales are the major source of revenue and profit is the amount that all business operation is directly linked with the sales budget. The revenue budget should be as realistic as possible. If the revenue plans are unrealistic then all other elements of profit plans will be out of reality.

Revenue plan will be prepared on the basis of revenue forecast. Revenue forecast have to be translated into a revenue plan after adjustment of various factors associated with sales. Revenue plan preparation involves the following four interrelated step (I) the sales forecast (II) the marketing plan (III) the promotional expenses budget and (IV) the selling expenses budget. The overall responsibility of preparing sales budget lies in the sales manager, although chief executives should also be involved in such activities.

NTC has practiced preparing sales forecast and the demand for long term. NTC prepares revenue budget for every fiscal year. It also made strategic revenue forecast. NTC prepares its revenue budget by line capacity and service. NTC has no problem in selling its line but it has been facing problem with line generation.

The financial planning department and revenue department of Nepal Telecom has the overall responsibility of preparing the revenue budget. Revenue budget is prepared with co-ordination of revenue section, billing section and business management section. Like other organizations, it does not have distribution section. Consumer contacts themselves to get telephone services. There is no strong competition in the market except UTL and Spice Nepal. NTC is enjoying absolute monopoly in communication sector.

The beginning point for the evaluation of existing revenue planning practices is to analyze past trends of planned sales revenue and its achievement. The following table 4.1 presents the sales budget and actual sales in unit and Rupees respectively from the fiscal year 2004/05 to 2008/09.

Table No: 4.1 Revenue Trend of NTC
From the F/Y 2004/05 to 2008/09

Fiscal Year	In Units (Lines)				In Rupees (In '000')			
	Budgeted Sales	Actual Sales	Increase/Decrease over previous year		Budgeted Sales	Actual Sales	Increase/Decrease over previous year	
			Budgeted %	Actual %			Budgeted %	Actual %
2004/05	3,89,400	3,27,673	-	-	57,24,629	61,56,022	-	-
2005/06	4,45,537	3,71,816	14.42	13.47	63,83,868	72,08,087	11.52	17.09
2006/07	5,52,057	4,53,475	23.91	21.96	73,16,547	80,02,903	14.61	11.03
2007/08	6,02,252	4,85,997	9.09	7.17	88,19,059	85,84,143	28.54	7.26
2008/09	6,56,070	5,09,873	8.94	4.91	81,60,954	1,04,13,655	(1.39)	21.31

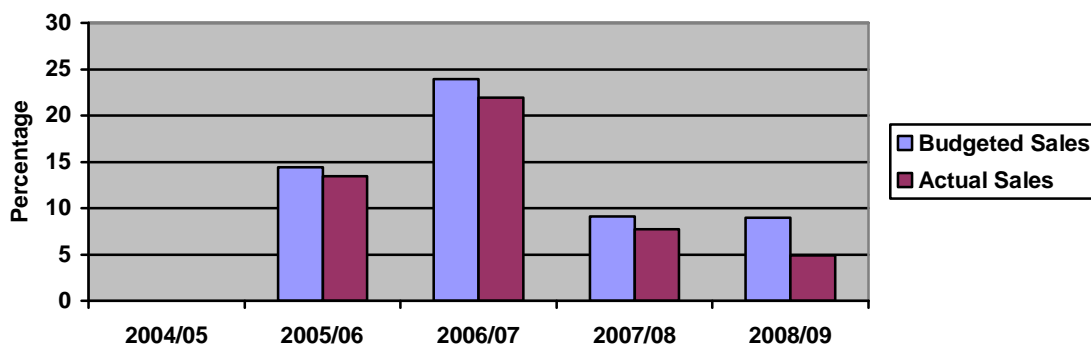
Source: Annual Report and Budget Book of NTC

The above table 4.1 shows that in all the fiscal year the budgeted and actual sales units are in fluctuating trend. It shows that the budgeted sales units increased over previous year by 14.42%, 23.91%, 9.09 % and 8.94 % for the F/Y 2005/06, 2006/07, 2007/08 and 2008/09 respectively. Similarly the table shows that the actual sales unit increased over previous year by 13.47%, 21.96%, 7.17% and 4.91% for the F/Y 2005/06, 2006/07, 2007/08 and 2008/09 respectively. It shows that there is no consistent increment in budgeted and actual sales unit. After analyzing this increment, it can easily be found that the demand of telephone is too high in Nepal due to the increment in population and customer awareness. Therefore, Nepal Telecom objectives must be targeted to fulfill the customer demand.

In the same way, the table 4.1 also shows that in all the fiscal year the budgeted and actual sales revenue increased except in the F/Y 2008/09. The table shows that in the F/Y 2005/06 the budgeted and actual sales revenue increased by 11.52% and 17.09% respectively. Similarly, in F/Y 2006/07 it increased by 14.61% and 11.03% respectively. In the same way in the F/Y 2007/08 increased by 28.54% and 7.26% respectively. But in the F/Y 2008/09 the budgeted sales revenue slightly decreased by 1.39% but actual revenue increased by 21.31%. This increment in budgeted and actual revenue was the result of large number of lines distribution of PSTN and mobile phone.

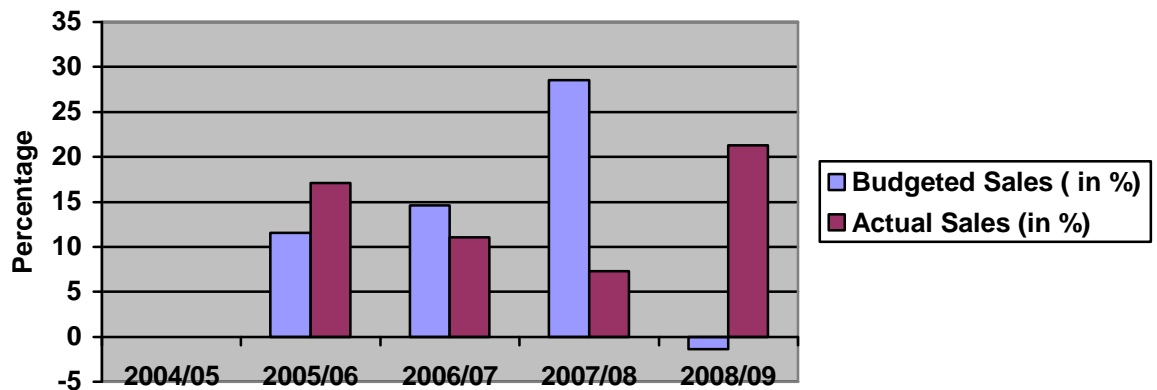
Increase/decrease over previous year in the budgeted and actual sales units and revenue can be shown by the help of the following graph 4.1 and 4.2.

Figure 4.1 Sales Trend of NTC (in %)



The above figure 4.1 shows that the percentage increase/decrease in the budgeted and actual sales units/no. of lines assuming the F/Y 2004/05 as base year. The graph presents that at first the budgeted and actual sales units is in increasing trend up to the F/Y 2006/07 then it is in decreasing trend to the F/Y 2008/09. From the analysis of sales trend it can be concluded that the demand of telephone line is very high in Nepal due to the increment of awareness and earning capacity of the people.

Figure 4.2 Revenue Trend of NTC (in %)



The above figure 4.2 shows that the percentages increase/decrease in the budgeted & actual sales revenue assuming the F/Y 2004/05 as base year. The graph depicts that the budgeted sales revenue increased up to the F/Y 2007/08 but it decreased and reached to negative increment form in the F/Y 2008/09. Similarly, actual sales revenue is in decreasing trend up to the F/Y 2007/08 and it increase in the F/Y 2008/09.

It can be notified that the actual sales revenue was in increasing trend if compared to previous year. But actual sales revenue did not increased in the ration to number of line increased. It shows that the collection policy of Nepal Telecom was not effectively implemented and the NTC was not able to forecast its sales accurately. There is no consistency between the budgeted and actual sales units and revenue due to lack of proper planning and management.

4.1.2 Revenue Achievement of Nepal Telecom:

Based upon the data available from Nepal Telecom the following table shows the budgeted and actual sales revenue with their respective achievement from the fiscal year 2004/05 to 2008/09.

Table No: 4.2 Budgeted and Actual Sales Achievement

From F/Y 2004/05 to 2008/09

In Units (No of Lines)				In Rupees (In '000')		
Fiscal Year	Budgeted Sales	Actual Sales	Achieved (In %)	Budgeted Sales	Actual Sales	Achieved (In %)
2004/05	389400	327673	84.15%	5724629	6156022	107.54%
2005/06	445537	371816	83.45%	6383868	7208087	112.91%
2006/07	552057	453475	82.14%	7316547	8002903	109.38%
2007/08	602252	485997	80.70%	8819059	8584143	97.34%
2008/09	656070	509873	77.72%	8696684	10413655	119.74%
Average			81.63%			109.38%

Source: Annual Report and Budget Book of NTC

The table 4.2 signifies that the budgeted and actual sales in unit and Rupees with their respective achievement of NTC. The analysis of the above table 4.2 shows the highly satisfactory sales performance of Nepal Telecom. In unit basis, sales achievement was 81.63 % in average. In the F/Y 2004/05 the budgeted sales of NTC was 389400 lines and gradually increased up to the F/Y 2008/09 which was 656070 lines. But, the achievement percentage gradually decreased during the research period which was not positive signal to the company regarding the sales units/No. of telephone lines. Thus, the company should increase its achievement rate by proper planning.

In the same way, in the F/Y 2004/05 the budgeted sales revenue was Rs. 5724629. Annual budgeted sales revenue increased from the F/Y 2004/05 to F/Y 2007/08 but it slightly decreased in the F/Y 2008/09. On the other hand, the actual sales revenue increased trend during the research period.

The actual sales revenue of NTC in the F/Y 2004/05 was Rs. 6156022 which reached to Rs. 10413655 in the F/Y 2008/09. The actual sales revenue is more than the targeted revenue in all the fiscal year of the research period. It can be said that target are based on historical data or previous year's sales performance. In all the fiscal year actual sales revenue are higher than budgeted sales revenue. It shows that the sales revenue achievement of NTC is highly satisfactory. The average achievement of revenue is 109.38% which is itself a good signal for the company. But in the F/Y 2007/08 actual sales revenue was low in comparison to the budgeted sales revenue and achievement was just 97.34%, which shows that Nepal Telecom has not clear guidelines of selling and revenue collection.

4.1.3 Summary of Statistical Calculation:

In order to find out the nature of variability of planned sales, actual sales and their achievement of different year's, calculation of arithmetic mean, standard deviation and co-efficient of variation of planned and actual sales and their achievement of NTC were made. The table 4.3 presents the summary of statistical calculation.

Table 4.3 Summary of statistical calculation

Statistical Tools	Budgeted sales in Rs. (X)	Actual sales in Rs. (Y)
Mean	7388.16	8072.96
Standard deviation	1228.07	1426.02
Co-efficient of variation (C.V)	16.52%	17.66%

Source: Appendix I

The above table 4.3 shows the value of statistical calculations. A distribution having more C.V is considered more variable or more heterogeneous or less consistent. A distribution having lesser C.V is considered less variable or more homogeneous or more consistent or more uniform. It also states that the actual sales are more deviated or

fluctuated year by year as the coefficient of variation of the actual sales as shown in the table is greater than the budgeted sales. The C.V of actual sales is 17.66% where as budgeted sales is 16.52%.

A major statistical tool called least square methods can be used to analyze the trend of actual sales and to estimate the possible future sales for a given time (years). This tool is considered as a time factor because time element is also an important factor to analyze the trend. With the passage of time the sales achievement will change, which can be expressed by the components of time series.

A straight line trend by the method of least squares will show the relationship between actual sales and years (time). For the least square method, it is assumed that the sales are consistently changed (increased or decreased) with the change in time. To fit the straight line trend, time factor is considered as independent variable(X) and actual sales achievement(Y) is assumed as dependent upon time (years).

Now the straight line trend by least square method for actual sales upon time is expressed by

$$Y_c = a + bx \dots \dots \dots (i)$$

Where,

Y=Actual sales achievement

X=Deviation taken in time

a=Fixed value

b=Variable value

**Table 4.4 Fitting Straight Line Trend by Least Square
From F/Y 2004/05 to 2008/09**

Fiscal Year (X)	Actual Sales in Rs.00000(Y)	$x=X-2006/07$	x^2	xY
2004/05	6156.02	-2	4	-12312.04
2005/06	7208.09	-1	1	-7208.09
2006/07	8002.90	0	0	0
2007/08	8584.14	1	1	8584.14
2008/09	10413.65	2	4	20827.30
	$Y = 40364.80$	$x = 0$	$x^2 = 10$	$xY = 9891.31$

Since, $x=0$, then,

$$a = \frac{Y}{n} = \frac{40364.80}{5} = 8072.96$$

$$b = \frac{xY}{x^2} = \frac{9891.31}{10} = 989.13$$

Now, the best fit of straight line trend is obtained by substituting the value of 'a' and 'b' in equation i.e. $Y_c = a + bx$, we get,

$$Y_c = 8072.96 + 989.13x$$

This trend line equation shows the positive relationship between time [years] and actual sales achievements. The actual sales will be increased by 989.13 million every year if the sales trends of past years continue in the future.

By using this trend line equation, we can estimate the actual sales for the fiscal year 2009/10.

The value of deviation {x} for fiscal year 2009/10 is 3.

We have,

$$\begin{aligned} Y_c &= 8072.96 + 989.13x \\ &= 8072.96 + 989.13 \times 3 \end{aligned}$$

=Rs.11040.35 million.

Or

= Rs. 11040353 (In thousand)

If the past sales trend does not change then the future actual sales will be Rs.11040.35 million in the fiscal year 2009/10. With the help of least square method, it can say that the trend of actual sales will have in increasing pattern.

Testing of Hypothesis:

Hypothesis testing is a well defined and a clear cut decision making procedure. Hypothesis testing begins with an assumption or supposition, called a hypothesis that can be made about a population parameter.

In hypothesis testing, the first thing is to set up a hypothesis about a population parameter. Then we collect sample data, produce sample statistics and use this information to decide how likely it is that our hypothesized population parameter is correct. Suppose we assume a certain value for a population mean. To test the validity of our assumption we gather sample data and determine the difference between the hypothesized value and the actual value of the sample mean. Then we judge whether the difference is significant. The smaller the difference, the greater the likelihood that our hypothesized value for the mean is correct. The larger the difference, the smaller the likelihood. The statistical hypothesis may be divided into two types: Null hypothesis (H_0) and alternative hypothesis (H_1). The null hypothesis in testing the significance states that there is no real difference in the sample mean and the population mean and is denoted by (H_0). Any hypothesis which is complementary to the null hypothesis is called on alternative hypothesis and is denoted by H_1 .

In a hypothesis testing the level of significance is set up. It is denoted by ' ' {alpha}. Normally 5 %.{ 0.05} level of significance unless otherwise stated is used. For a hypothesis testing student's t-distribution or 't' test is adopted here which was developed by W.S. Gosset. The t- distribution {t-test} is used when the sample is 30 or less than 30(30).

The t-test can be numerically presented as under:

$$t = \frac{\bar{X} - \mu}{\frac{S}{\sqrt{n}}}$$

Where,

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

μ = population mean

n = sample size

S = standard Deviation of Sample

$$S = \sqrt{\frac{\sum x^2}{n} - \frac{(\sum x)^2}{n^2}}$$

Now formulation of Hypothesis:

Null Hypothesis (H_0): There is no significant different between actual sales achievement (i.e. sample mean) and budgeted achievements (i.e. population mean) or $\bar{X} = \mu$

Alternative Hypothesis (H_1): There is significant different between actual achievement and budgeted Sales or $\bar{X} \neq \mu$.

Hence, applying t-test formula;

Then we have,

$$t = \frac{\bar{X} - \mu}{\frac{S}{\sqrt{n}}} = \frac{8072.96 - 7388.16}{\frac{1426.02}{\sqrt{5}}} = \frac{684.80}{636.62} = 1.08$$

Hence, (t) = 1.08

Where,

\bar{X} = Sample mean or actual sales mean.

μ = Population mean or budgeted sales

S = Sample S.D. =1700.824

Therefore, degree of freedom (d.f.) = $n-1 = 5-1= 4$

The tabulated value of 't' at 5% level of significance for 4 d.f. for two tail test =2.776.

The tabulated value of 't' (i.e. 2.776) is greater than the computed value of 't' I.e.1.08. So, the alternative hypothesis is rejected and null hypothesis is accepted. Therefore it can be conclude that there is no significance difference between actual sales and budgeted sales of NTC.

4.1.4 Category-wise Analysis of Revenue:

While preparing revenue plan, the emphasis need to be given to category of sales. Different category of sales contributes in revenue generation process in NTC. Therefore, analysis of sales of each category is important. The major aspect of this analysis is to measure the achievement of actual sales revenue of each category of NTC.

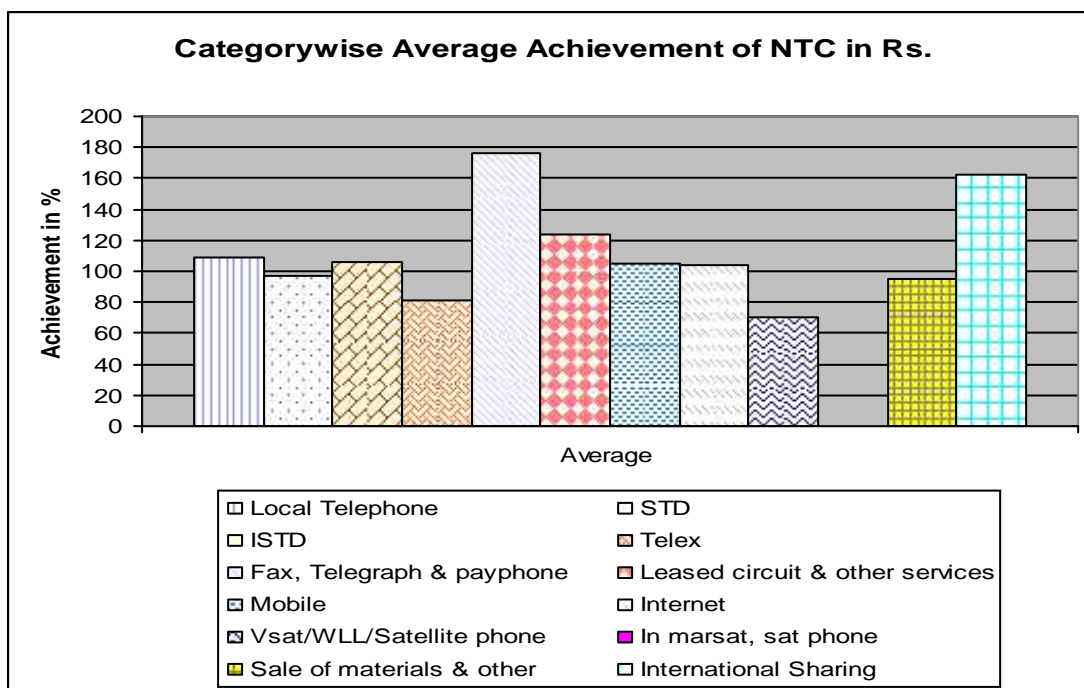
Table No: 4.5 Category-wise Achievement of sales in relation to the budgeted sales

F/Y	2004/05	2005/06	2006/07	2007/08	2008/09	Average
Local Telephone	110.05	113.63	105.30	110.47	106.68	109.23
S.T.D.	95.88	87.86	96.88	104.70	97.92	96.65
I.S.D.	104.64	113.82	101.63	105.25	106.67	106.40
Telex	81.07	82.21	0	0	0	81.64
Fax, Telegraph & pay phone	127.89	225.42	0	0	0	176.66
Lease circuit & other services	157.70	93.18	164.33	17.64	186.89	123.95
Mobile	85.56	47.43	154.15	66.94	172.48	105.31
Internet	95.61	64.76	107.97	0	148.69	104.26
Vast /WLL/ satellite phone	0	20.01	34.15	103.69	123.30	70.29
Inmarsat, sat phone	0	0	0	0	0	0
Sale of materials & other	98.33	101.74	73.40	86.85	116.62	95.39
International sharing	158.57	256.79	122.29	110.92	0	162.14
Average	111.53	109.71	106.68	88.31	132.41	109.73

Sources: Appendix- II

The above average achievement of sales revenue of N.T.C. during the research period can be shown in the following diagram 4.3 too.

Figure 4.3



The above table 4.5 and figure 4.3 shows the category wise achievement of sales revenue of NTC. The categories are Local Telephone, STD, ISTD, Telex, Fax, Telegraph, Pay phone, Leased circuit, Mobile, Internet and International sharing etc.

It is predicated that the average achievement of sales revenue in Local Telephone is 109.23%. The achievement of sales revenue from Local Telephone in the F/Y 2004/05 is 110.05% which reached 113.63% in the F/Y 2005/06. It has slightly gone down to 105.30% in the F/Y 2006/07. It again increased in the F/Y 2007/08 to 110.47% and down to 106.68 in the F/Y 2008/09. The mean figure of Local Telephone is 109.23% which shows better performance in Local Telephone revenue achievement.

In the STD category, the average achievement is 96.65% which is less than 100%. It shows satisfactory result but the company should increase its revenue achievement capacity in STD. similarly, the average

achievement in ISTD is 106.40% which shows better condition but the trend is fluctuating. The average achievement in Telex is 81.64% which is not satisfactory whereas in Fax, Telegraph & pay phone category, average achievement is in better condition because of its high achievement percentage i.e. 176.66%. The average achievement in Leased circuit & other service is 123.95% which is more than the targeted. In the same way, the average achievement in mobile & internet is 105.31% & 104.26% which shows better performance in these categories. But in the case of Vsat/WLL & Satellite phone the achievement is not satisfactory. Which shows only 70.29% achievement. Similarly, sales of material & other category is in satisfactory condition which average achievement is 95.39% but it can be increased by taking corrective action. International sharing category is in very better condition which average achievement is 162.14%.

The overall category achievement in the F/Y 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 are 111.53%, 109.71%, 106.68%, 88.31% and 132.41% respectively. In all the F/Y except 2007/08 during research period, the sales revenue achievement is greater than 100% which shows better performance of the company. In conclusion, the company's average achievement of sales revenue percentage is 109.73% which shows good signal for its bright future but the company still has to pay efforts to improve its achievement capacity.

4.1.5 Contribution of Each Category in Totals Sales:

Contribution of each category in total sales revenue from the fiscal year 2004/05 to 2008/09 is presented in table 4.6.

**Table 4.6 Percentage contribution of each category in Total Sales Revenue
From Fiscal Year 2004/05 to 2008/09.**

Category/ Fiscal year	2004/05	2005/06	2006/07	2007/08	2008/09	Average
Local Telephone	24.63	28.56	26.42	27.03	25.48	26.42
STD	24.91	20.81	19.61	19.33	16.92	20.32
ISTD	21.25	15.14	14.65	14.40	14.11	15.91
Telex	0.26	0.18	0.00	0.00	0.00	0.22
Fax, Telephone & pay phone	0.02	0.25	0.00	0.00	0.00	0.14
Leased circuit & other services	0.49	0.41	0.34	0.09	1.15	0.50
Mobile	6.73	4.65	19.63	15.44	18.12	12.91
Internet	0.23	0.26	0.23	0.00	0.27	0.25
Vsat\ WLL\ Satelite phone	0.00	0.04	0.23	0.77	0.49	0.38
In marsat, set phone	0.00	0.00	0.00	0.00	0.00	0.00
Sales of materials & other	4.97	5.58	3.61	3.57	5.28	4.60
International sharing	16.49	24.12	15.28	19.38	18.18	18.69
Total	100	100	100	100	100	100

Source: Appendix III

The above table 4.6 gives the insights of contribution of each category in total sales revenue. The table shows that the Local Telephone category gives the highest contribution in total sales revenue. The contribution of Local Telephone in total sales revenue remained in between 24.63% and 28.56% with the average 26.42%. The second highest contributing

category in sales revenue is STD category which average contribution is 20.32%. Similarly, the third highest contributing category in sales revenue is international sharing category with the average contribution is 18.69%. In the same way, other category such as ISTD, mobile and sales of materials & other has considerable contribution in total revenue with average contribution 15.91%, 12.91% and 4.60% respectively. But rests of the category have less than 1% contribution. The table also shows that one category in marsat, sat phone has no contribution in total sales revenue which means NTC is not providing service of in marsat & sat phone or it the category is out of date.

4.1.6 Analysis of Sales variance of Nepal Telecom:

In any control process, the comparison of actual results with planned or budgeted goals is essential. Comparison is assisted by the performance reports. Variance is the deviation between budgeted or planned goals and actual results obtained. Variance analysis is the determination of the reasons for a reported variance whether it is favorable or unfavorable. If the variance is unfavorable then the company management should lead to remedies through appropriate corrective actions by the efficient management. Now, the following sales variance of Nepal Telecom is analyzed for last five fiscal years.

Sales Variance in Units (No. of Lines):

When actual sales are higher than budgeted sales, it is known as favorable variance and such variance is usually a right of efficiency. On the other hand, when the actual sales are lower than budgeted sales, it is called unfavorable variance and usually indicates inefficiency. The following table shows the sales variance in lines of NTC of last five fiscal year.

Table: 4.7 Sales Variance (In No. of Lines) of Nepal Telecom

Fiscal Year	Actual Sales Lines	Budgeted Sales Lines	Variance (+ or -)	Remarks
2004/05	327673	389400	(61727)	Unfavorable
2005/06	371816	445537	(7372)	Unfavorable
2006/07	453475	552057	(98582)	Unfavorable
2007/08	485997	602252	(116255)	Unfavorable
2008/09	509873	656070	(146197)	Unfavorable

Source: Annual Report & Budget Book of NTC.

The above table shows that the actual sales lines are lower than the budgeted sales lines in all fiscal year. Thus, the situation is unfavorable for the company. It shows that Nepal Telecom does not have well developed scientific mechanism for predetermining standard.

Sales Revenue Variance (In Rs.):

The analysis of the sales revenue variance has been conducted in this research which gives the actual results of sales revenue realization. The following table shows the sales revenue variance of Nepal Telecom for the last five fiscal year from 2004/05 to 2008/09.

Table: 4.8 Sales Revenue Variance (In Rs.) of Nepal Telecom

In Rs. '000'

Fiscal Year	Actual Revenue	Budgeted Revenue	Variance (+ or -)	Remarks
2004/05	6156022	5724629	431393	Favorable
2005/06	7208087	6383868	824219	Favorable
2006/07	8002903	7316547	686356	Favorable
2007/08	8584143	8819059	(234916)	Unfavorable
2008/09	10413655	8696684	1716971	Favorable

Source: Annual Report & Budget Book of NTC.

The table 4.8 shows the sales revenue variance of Nepal Telecom from the 2004/05 to 2008/09. According to the table in the F/Y 2007/08 actual sales revenue is less than the budgeted by Rs. 234916 which shows unfavorable situation of the company. Other remaining year's sales revenue variances are positive which means favorable. It can be said that Nepal Telecom has been operating its activities very efficiently.

4.1.7 Relationship between Total Revenue and Profit:

Profit is the major element of each and every business endeavor for survival and future development. Business without Profit exists nowhere. However, the concept of profit is changing from time to time. In presents reasonable profit approach seems to hold a strong position. Profit is the nerve center of any business organization. So, it can be said that profit is the blood circulation of any organization. Profit is essential to pay expenditure, dividends, to get benefits from opportunities and to make financials contribution to natural treasury. In modern times effectiveness and efficiency of any business/management are measured by profit. Profit of any organization highly depends upon sales revenue.

NTC has been generating positive returns. Thus, it has been well-known to public as highly profitable organization in public utility sector. The following table shows the revenue and profit & loss trend of NTC from the F/Y 2004/05 to 2008/09.

Table: 4.9 Total Revenue and Profit & Loss Trend of NTC.

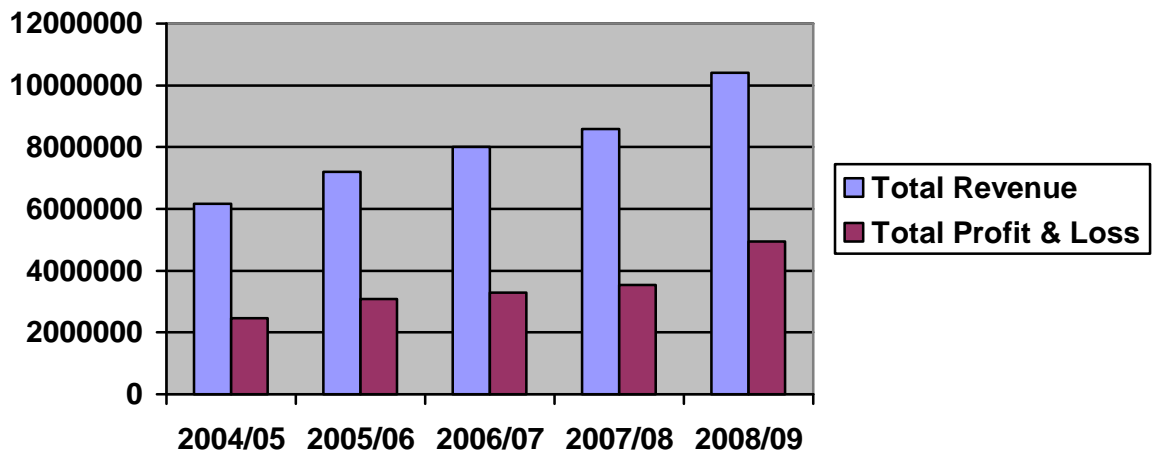
Fiscal Year	Total Revenue (In Rs. '000')	Increase/Decrease over previous year (%)	Profit & Loss (In Rs. '000')	% of Profit & Loss on Total Revenue	Increase/Decrease over previous year (%)
2004/05	6156022	-	2467930	40.09%	-
2005/06	7208087	17.09	3087782	42.84%	25.12
2006/07	8002903	11.03	3290117	41.11%	6.55
2007/08	8584143	7.26	3542461	41.27%	7.67
2008/09	10413655	21.31	4936647	47.41%	39.36

Source: Annual Report of NTC.

The above table 4.9 gives the account of Total Revenue and profit & loss trends of NTC from the F/Y 2004/05 to 2008/09. It is clear that NTC has been generating unexpectacular profit during research period. Thus NTC is well known to the general public as a most profitable organization. In all the F/Y percentage of profit & loss on sales revenue is more than 40% which shows better performance of organization despite the fact that the NTC has been enjoying monopoly in telecommunication sector.

Increase/decrease over previous year or the trend of total revenue and profit & loss can be presented by the help of following graph 4.4.

Figure 4.4 Revenue and Profit Trend of NTC



The above figure 4.4 shows the revenue and profit & loss trend i.e. increase/decrease over previous year assuming the F/Y 2004/05 as base year. The graph presents that the total revenue is in fluctuating trend. At first, total revenue and profit is in decreasing trend up to the F/Y 2007/08 then is in increasing trend but the increase/decrease ratio of percentage of total revenue and profit & loss is not same.

The relationship between total revenue and profit can be presented by the following graph.

The above line graph gives the clear picture of relationship between total revenue and profit & loss of NTC during the research period of the fiscal year 2008/09. The total revenue is in increasing trends from the F/Y 2004/05 to 2008/09 and it slightly down in the F/Y 2008/09. But the profit & Loss trends is some how fluctuation during the research period. Profit was in increasing trend between the F/Y 2004/05 to 2005/06 and it slightly down in the F/Y 2006/07 after that it was in increasing trend. In conclusion, Total revenue & profit & loss trend both are in increasing trend & they are increasing in same direction.

The least square method can be used to analyze the trend of profit & loss and to estimate the possible future profit or loss for a given time of year. Considering the time factors as independent and profit or loss as dependent factor upon time. It will show the relationship between year and profit or loss.

Let, the straight line trend be $y_c = a + bx$

**Table 4.10 Fitting Straight Line Trend by Least Square
From the F/Y 2004/05 to 2008/09**

F/Y (X)	Profit/loss (Y) (In Rs.'000')	x=X- 2006/07	x ²	Xy
2004/05	2467930	-2	4	-4935860
2005/06	3087782	-1	1	-3087782
2006/07	3290117	0	0	0
2007/08	3542461	1	1	3542461
2008/09	4936647	2	4	9873294
	Y=17324937	x=0	x ² =10	xY=5392113

Since $x=0$ then,

$$a = \frac{\sum Y}{n} = \frac{17324937}{5} = 3464987.40$$

$$b = \frac{\sum xY}{\sum x^2} = \frac{5392113}{10} = 539211.30$$

Now substituting the value of 'a' and 'b' in the above equation,

We have,

$$Y_c = 3464987.40 + 1078422.60x$$

For the estimation of profit or loss for the year 2009/10,

We have,

$$a = 3$$

$$\begin{aligned} Y_c &= 3464987.40 + 1078422.60 \times 3 \\ &= 6700255.20 \text{ (In Rs. '000')} \end{aligned}$$

The estimated profit for the fiscal year 2009/10 will be Rs. 6700255.20 (In Rs. '000') if the past profit trend continues. With the help of least square method, we can say the trend of profit of NTC is increasing.

To analyze the relationship between sales and profit of NTC, some statistical tools are used which are presented below.

Table: 4.11 Summary of Statistical Tools

Statistical Tools	Total Revenue "X"	Profit "Y"
Arithmetic Mean	7694.30	3464.99
Standard Deviation	913.47	817.16
Coefficient of Variation (C.V)	11.87%	23.58%
Correlation Coefficient (r)	0.79	
Coefficient of Determination (r ²)	62%	
Probable Error (P.E)	0.1144	

Source: Appendix III

The above table shows that the profit is more deviated than revenue being C.V 23.58% as compared to C.V 11.87% of total revenue. The correlation coefficient is used to analyze the relationship between total revenue and profit. From above table the value of correlation is 0.79 which shows highly positive correlation between total revenue and profit. That means total revenue and profit moves in quite same direction.

One very convenient and useful way of interpreting the value of coefficient of correlation is coefficient of determination (r²). The value of

coefficient of determination between total revenue and profit is 0.62 which shows that profit is covered up to 62% only by total revenue and remaining part by other factors.

The significance of correlation can be tested or verified by probable error. If the value of "r" is less than six time of P.E there is no evidence of correlation i.e. the value of "r" is not significant. Here the value of "r" is greater than 6*PE (i.e. 0.79>0.69) that means the value of "r" is significant. So, it can be concluded that the value of profit will go on for same direction of total revenue.

4.1.8 Analysis of Account Receivable of Nepal Telecom:

Receivable management is one of the major challenges of Nepal Telecom at present. Average collection period provides the information on the liquidity of the receivable, the shorter period of collection has higher debtor's turnover ratio. Higher the duration of collection periods express over liberal and inefficient credit policy. To analyze the account receivable of Nepal Telecom, mainly debtor's turnover and average collection periods are useful to measure the relationship between receivables and net revenue from sales. So, the debtor's turnover ratios are presented from the period the F/Y 2004/05 to 2008/09. The ratio is calculated as follows and the detail results of these analyses are presented in given below on the table.

$$\text{Average collection Period (ACP)} = \frac{\text{Receivable}}{\text{Net Sales}} * 365$$

Or

$$= \frac{\text{Days in Year}}{\text{Debtor Turnover}}$$

$$\text{Debtor's turnover ratio (DTR)} = \frac{\text{Sales}}{\text{Receivable}}$$

**Table: 4.12 Account Receivable, Sales Revenue, Average Collection
Period and Debtor Turnover Ratio
From F/Y 2004/05 to 2008/09**

Fiscal Year	Sales Revenue (In Rs. '000') A	Account Receivable (In Rs. '000') B	Debtor Turnover C=A/B	Average Collection Period = 360/C
2004/05	6156022	2468080	2.49 times	144.58 days
2005/06	7208087	3030277	2.38 "	151.26 "
2006/07	8002903	5279294	1.58 "	227.85 "
2007/08	8584143	2825943	3.04 "	118.42 "
2008/09	10413655	3099496	3.36 "	107.14 "

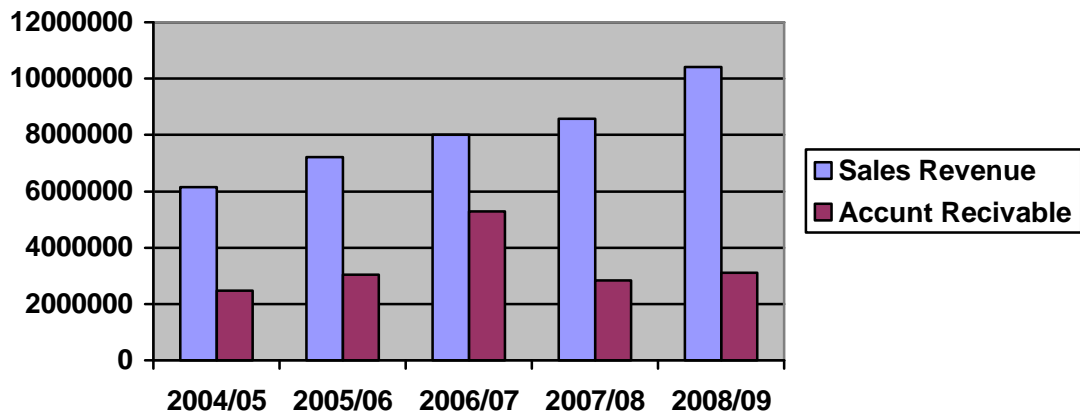
Source: Annual Report of NTC.

The above table 4.12 shows sales revenue, account receivable, debtor turnover and average collection period of NTC from the fiscal year 2004/05 to 2008/09. The table highlight that as sales revenue increases/decreases, it puts impact on Account receivable, so, account receivable increases/decreases. Debtor turnover is in fluctuating trend. It decreased from 2.49 times to 1.58 times between the fiscal year 2004/05 to 2006/07. Then it went up to 3.04 times in the fiscal year 2006/07 and then again it decreased to 2.75 times in the fiscal year 2008/09.

The average collection period of NTC is also in fluctuating trends. It was 144.58 days in the fiscal year 2004/05 and increased to 227.85 in fiscal year 2006/07. Then it again decreased to 118.42 days in the fiscal year 2007/08 and increases to 130.91 days in the fiscal year 2008/09.

The relationship of sales and account receivable can also be shown by the help of graph as follows.

Figure-4.5 Relationship Between sales and accountant receivable



The above figure shows that both the sales and account receivable are fluctuating during the whole research period. Account receivable is not increasing with the increment in sales & vice versa.

4.2 Cash Management of Nepal Telecom:

One of the objectives of this study as stated in chapter 1 is to have true insight in to 'cash management' of Nepal Telecom. One of the major responsibilities of management is to plan, control and self guard the resources of the enterprise. There are two kinds of resources flow through many business i.e. cash and non-cash assets. Cash is ready money in the bank or in the business and it is the important current asset for the operations of the enterprise. Cash is the basic input needed to keep the enterprises running smoothly. It would probably be more to say that business failure is due to poor cash management. So, how can manage organization's cash situation better? In this study the effort has been made to assess and to analyze the cash management to disclose the actual position of cash management in Nepal Telecom.

4.2.1 Analysis of Cash Balance of NTC:

Management of cash plays vital role for knowing when, where and how organization's cash needs will occur? What are the best resources for meeting additional cash needs. It plays a crucial role in current assets of company. The total cash includes cash in hand, cash at bank and cash in transit. In overall, cash is the life blood of any organization. Without cash, no business activities can be conducted. So, it is necessary for any organization to have sufficient cash balance.

Cash turnover ratio represents how quickly the cash is received from its sale. Lighter turnover of cash is the signal of good liquidity and vice versa. The table below shows the cash position & turnover of the company during the period under study.

Table: 4.13 Calculations of Actual Total Cash Collection, Closing Cash Balance and Cash Turnover Time From the F/Y 2004/05 to 2008/09

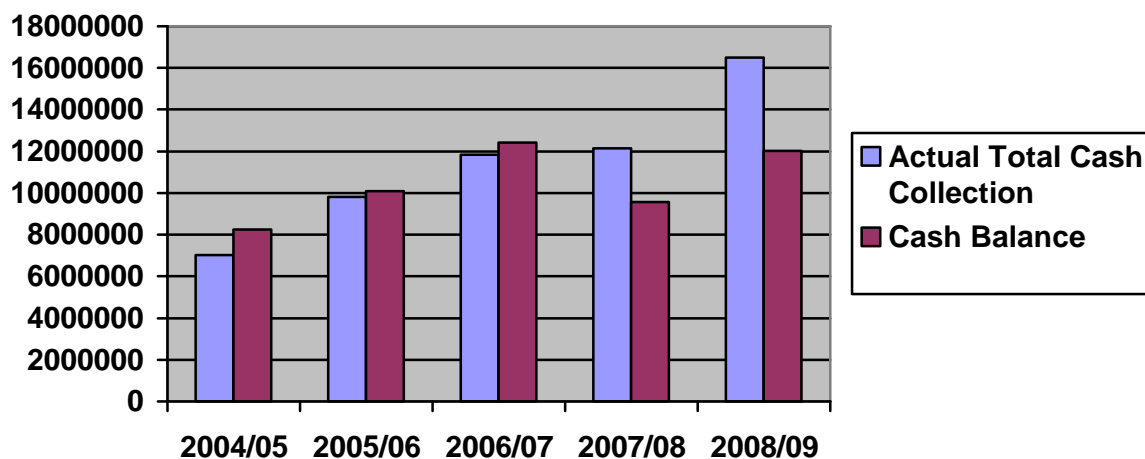
In Rs. '000'

Fiscal Year	Actual Total Cash Collection	Cash Balance	Increase/Decrease in Cash Balance	Sales Revenue	Cash Turnover Time
2004/05	7033681	8233909	-	6156022	0.75
2005/06	9827256	10097737	22.64%	7208087	0.71
2006/07	11843217	12417486	22.97%	8002903	0.64
2007/08	12151818	9574500	(22.90%)	8584143	0.90
2008/09	16510177	12021625	25.56%	10413655	0.87

Source: Annual Report and Budget Book of NTC.

The results of actual total cash collection and cash balance also can be shown by the help of the following diagram.

Figure 4.6 Actual Total Cash Collection and Cash Balance



The table 4.13 shows that the actual cash collection is in increasing trend over the five fiscal year period. In the F/Y 2004/05 total cash collection was Rs. 7033681 (In Rs. '000') then increasing it reached to Rs. 16510177 in the F/Y 2007/08. Cash balance of the company is in fluctuating trend. First, it is in increasing trend up to the F/Y 2007/08 but it decreased by 22.90% in the F/Y 2007/08. Then the cash balance increased by 25.56% in the F/Y 2008/09. The table also shows that the cash balance is higher than actual total cash collection in the F/Y 2004/05, 2005/06, 2006/07. But it is lower than actual total cash collection in the F/Y 2007/08 and 2008/09. In fact, this shows that the company has little success on the best use of these available cash balance. In conclusion, these figures shows that the company has no define policy of cash management. Cash balance is higher if compared with sales revenue; this shows the company has excessive maintenance of cash balance.

The above table also shows that cash turnover time is also in fluctuating order. The lowest turnover ratio is 0.64 times in the F/Y 2006/07. cash turnover are 0.75, 0.71, 0.64, 0.90 and 0.71 times in the F/Y 2004/05,

2005/06, 2006/07, 2007/08 and 2008/09 respectively and the average is 0.74 times. Lower turnover is the signal of shortage of liquidity. This shows that cash turnover is poor in the company. It indicates that the company is unable to collect cash from its credit rate timely. From the analysis, it can be concluded that the cash collection efficiency in Nepal Telecom is satisfactory.

4.2.2 Analysis of Cash to Current Liabilities of NTC:

Among the technique of measuring corporate liquidity, the ratio of cash to current liabilities may also be used as an index of cash management. This ratio indicates the amount of cash (in percentage) available to pay the current obligation of the firm. In general, a low percentage of cash to current liabilities may be regarded as favorable indicators because sufficient use of cash helps to increase profit. However, a very low ratio is also not desirable as it may lead to corporate insolvency.

The table 4.13 below presents the level of cash in relation to current liabilities of Nepal Telecom for the five fiscal year from 2004/05 to 2008/09.

**Table: 4.14 Position of Cash and Current Liabilities of NTC
From the F/Y 2004/05 to 2008/09**

Fiscal Year	Cash & Bank	Current Liabilities	Percentage	Ratio
2004/05	8233909	2943376	279.74%	2.80
2005/06	10097737	3675412	274.74%	2.75
2006/07	12417486	7721216	160.82%	1.61
2007/08	9574500	3858484	248.14%	2.48
2008/09	12021625	4475753	268.59%	2.69

Source: Annual Report and Budget Book of NTC.

The above table 4.14 indicates that the cash and bank balance are always higher than current liabilities. The level of cash in relation to current liabilities is in decreasing trend i.e. 2.79.74%, 2.74.74% and 160.82% for the F/Y 2004/05, 2005/06 and 2006/07 respectively. But, it is in increasing trend i.e. 2.48.14% and 2.68.59% for the F/Y 2007/08 and 2008/09. In the same way, cash to current liabilities ratio is also in decreasing trend up to the F/Y 2006/07 then it is in increasing trend up to the F/Y 2008/09. from the analysis, it can be said that the company has enough cash to pay the current obligation of the company but it also shows that Nepal Telecom has not manage its cash properly. In conclusion, excessive cash balance shows that NTC is not utilizing its cash properly and hence the company has faced the problem of cash management.

4.2.3 Cash Flow Projection and Actual Cash Budget of NTC:

Cash flow statement is the process of monitoring, analyzing and adjusting business' cash flows. The most important aspect of cash flow management is avoiding extended cash shortages, causes by having too great a gap between cash inflows and out flow. Therefore, business need to perform cash flow analysis on a regular basis, and use cash flow forecasting so the business can taken the steps necessary to head off cash flow problems. For managing and improving cash flow Nepal telecom has estimated and actual cash budget for each fiscal year.

The cash flow projection shows how cash is expected to flow in and out of the business. It is an important tool for cash flow management, when business expenditures are too high or when arrangement short-term investments deal is required with a cash flow surplus. Budget cash flow is a plan of cash flow and shows the cash that is anticipated to be generated

or expended over a chosen period of time in the future. On the other hand, actual cash budget describes the cash flow that has occurred in the past. Estimated and actual cash budget of Nepal Telecom is presented on the table below.

**Table: 4.15 (I) Estimated and Actual cash Budgeted summary of NTC
From the F\Y 2004/05 to 2006/07**

In Rs. '000'

Year	2004/05			2005/06			2006/07		
Description	Budget	Actual	Achieved	Budget	Actual	Achieved	Budget	Actual	Achieved
Total Internal Sources	756979	70050	92.54	901184	963980	106.97	107853	118432	109.80
	2	26	%	7	6	%	87	17	%
Total External Sources	169300	28655	16.93	460000	187450	40.75	130000	0	
			%			%			
Total Cash Collection (A)	773909	70336	90.89	947184	982725	103.75	109153	118432	108.50
	2	81	%	7	6	%	87	17	%
Total Cash Application (B)	868317	64377	74.14	108053	899802	83.27	129322	100900	
	1	25	%	34	3	%	99	42	
Opening Balance of Cash	650980	70627	108.49	650980	824213		939211	100977	
	4	88	%	4	9		3	37	
Surplus/Deficit	(9440799)	595956		(1333487)	829233		(2016912)	1753175	
Cash not Incurred	0	583394		0	1026365		0	566574	
Closing Balance of Cash	556572	82421	148%	517631	100977		737520	124174	168.37
	5	38		7	37		1	86	%

Source: Annual Report and Budget Book of NTC.

**Table: 4.15 (II) Estimated and Actual cash Budgeted summary of NTC
From the F/Y 2007/08 to 2008/09**

In Rs. '000'

Description	2007/08			2008/09		
	Budgeted	Actual	Achieved	Budgeted	Actual	Achieved
Total Internal Sources	12770339	12151818		11912645	16510177	138.59%
Total External Sources	100000	0		0	0	
Total Cash Collection (A)	12870339	12151818	94.46%	11912645	1651077	138.59%
Total Cash Application (B)	17763327	14444112	81.31%	19168471	14063052	73.37%
Opening Balance of Cash	10829362	10780669		10655130	9574500	89.86%
Surplus/Deficit	(4892988)	(2292294)		(7255826)	2447125	
Cash not Incurred	0	1086125		0	0	
Closing Balance of Cash	5936374	9574500	161.29%	3399304	12021625	353.65%

Source: Annual Report and Budget Book of NTC.

The above table 4.15 (I) and (II) shows that the budgeted and actual cash budget as well as achievement of planned of Nepal Telecom. Total cash is collected from two sources i.e. internal sources and external sources. Internal sources has significantly more contribution to total cash collection if compared to external source in all the fiscal year. From the above table, it can be found that the achievement of planned is in fluctuating trend during the research period. The achievement in the F/Y 2004/05 was 90.89% but it reached to 103.75% in the F/Y 2005/06. Again increasing it reached to 108.50% in the F/Y 2006/07 then it decreased to 94.46% in the F/Y 2007/08. Finally it increased to 138.59%. Similarly, achievement in total cash application is also in fluctuating trend but it is less than 100% in all the fiscal year. This shows that the budgeted total cash application is always higher than actual in all the fiscal year. This indicates the NTC has not been able to utilize the cash

properly. The above table also shows that the budgeted total cash application is always higher than the budgeted total cash collection. This means, NTC has been practicing deficit budget but actual cash budget shows surplus in all the fiscal year except the F/Y 2007/08. Actual total cash collection is always higher than actual total cash application except one fiscal year. This shows the fact that NTC has been facing serious problem about the best utilization of cash.

In the same way, the above table clarifies that the actual closing balance of cash is always higher than the budgeted closing balance of cash. The achievement in closing cash balance is in increasing trend. It was 148% in the F/Y 2004/05 but it reached to 353.65% in the F/Y 2008/09. Similarly, actual closing cash balance in the F/Y 2004/05 was Rs. 8242138 but it increased year by year and reached to Rs. 12021625 in the F/Y 2008/09. In conclusion, closing cash balance of NTC is positive and it is higher than projected cash balance on the whole study period. Closing cash balance is in increasing trend.

The estimation or projection of cash flow is powerful management tool in Nepal Telecom. By knowing its cash position now and the future, Nepal Telecom can get benefit to purchase sufficient inventory for seasonal cycles, to take advantage of discount and special purchases, for adequate future financing and properly plan equipment purchases for replacement or expansion. It is said that lack of liquidity can be a killer even for profitable business. But Nepal Telecom has sufficient cash till the study period. After analyzing the budgeted and actual cash position, there is huge difference on budgeted and actual cash balance. Thus, Nepal Telecom should get an effort to minimize the difference.

If the cash coming 'in' to the business is more than the cash going 'out' of the business, the company has a positive cash flow. Nepal Telecom has

also positive cash flow i.e. good for the company. Sometimes it is worry about what to do with the excess cash. The main danger when putting together a cash flow projection is being over optimistic about the projected sales. Nepal Telecom has succeeded to avoid a cash crisis by developing cash flow projection.

4.2.4 Cash Flow Statement of NTC:

Cash flow statement is an important tool which provides information to its users about the ability of the enterprise to generate cash and its utilization. In recent years, the statement of cash flows has come to be viewed as a part of full set of financial statement. NTC prepares short term cash budget in a systematic way. It estimate the probable cash receipts and cash disbursements with the help of other functional budget and estimates the probable future cash deficits or surplus. Cash flow statement signifies the movements of “Cash-in” and “Cash-out” of the company. Inflow of cash is known as source of cash and outflow of cash is called use of cash.

Cash flow statement of the corporation signifies the movements of cash in hand and out of corporation. Inflows of cash are known as source of cash and outflow is called use of cash. This statement also depicts the factors for such inflow and gets flow of cash. It virtually takes the nature and character of cash receipt and cash payments through the basic information used in the preparation of this statement differs from that which is used in recording cash receipts and cash payments in cash inflows and outflows are explained and shown in cash flow statement before highlighting its nature and utility. The actual cash flow statement is presented on the heading of cash flow investment activities for the fiscal year 2004/05 to 2008/09. The following table shows that the position of cash flow from operation, investing and financing activities

and their mean, and % of cash flow from operating activities with operating profit.

Table: 4.16 Statement Showing Cash Flow Position from Various Activities

Activities	2004/05	2005/06	2006/07	2007/08	2008/09	Mean/Average
CFOA	2406935947	4550817851	3388021966	4827497506	6722360621	4379126778
CFIA	(7333219138)	(2070841273)	(748451305)	(2595531134)	(2483522527)	(1726313075)
CFFA	(652360733)	(462377493)	(697198815)	(3187010931)	(2071719115)	(1414133417)
Net Operating Profit	3320063000	4093119000	4550667000	4921529000	6843727000	4745821000
% of CFOA with operating profit	73%	111.11%	74%	98%	98%	90.82%

Source: Annual Report of NTC.

The table and figures above shows the cash flow position of company in different fiscal year. From the fiscal year 2004/05 to 2008/09 cash inflow from operating activities was increasing year by year. However cash inflow position from operating activities in the fiscal year 2006/07 was significantly lower in comparison to other years, it was Rs. 3388021966. Cash flow from operating activities shows the strong position of the NTC. Cash flow from investment activities was in negative and high in the F/Y 2006/07 which means cash outflow. In rest of the study period there was negative cash flow in investing activities but not as much as in the fiscal year 2006/07. This shows that the company was extending it services and project. Again it shows that the company was in growing stage. Similarly, the table shows that the company had negative cash flow from financing

activities from the fiscal year 2004/05 to 2008/09 that means it was paying its long term liabilities. More over, it can be concluded that the company is paying back its loan and investing its fund simultaneously, which became possible because of retained earning. Cash flow from operating activities was ploughed for the investment and loan payment. It shows strong financial position of the company.

Percentage ratio of cash flow from operating profit is increasing every year. But in the fiscal year 2006/07 it decrease by 37.20% comparing in the fiscal year 2005/06. And in the fiscal year 2007/08 and 2008/09 it decrease by 13.11% comparing with the fiscal year 2006/07. Hence, we can conclude that NTC's financial position is strong if comparing with the operating profit. It shows that the company is in profitable condition but not in proper planning. If there is proper planning the company can achieve more profit in future.

An average or mean cash flow from operating activities is increasing in every year. It is Rs 4379126778. It is small than the fiscal year 2004/05. This shows that the company doesn't maintain an average cash balance. But in the F/Y 2005/06, 2006/07, 2007/08 and 2008/09 it were Rs 4550817851, Rs 3388021966, Rs 4827497506 and Rs 6722360621 respectively. Comparing with average it can be said that the company is in good position regarding the cash flow from operating activities. Similarly, the mean or average cash flow from investing activities is Rs. -1726313075 which is in negative. It shows that the company is investing huge amount in telecommunication infrastructure development. In the same way, mean or average cash flow from financing activities is also in negative which is Rs. -1414133417. This means the company also investing huge amount in repaying its debt and in marketable securities.

In conclusion, the company has been maintaining adequate liquidity despite its repayment of loan and investment in infrastructure.

From the analysis of the diagram it can be easily be found that the cash flow from investing and financing is in negative balance. This shows that the NTC is investing huge amount of money in financing activities. Cash investment in financing & investing activities is increasing year by year. The diagram also shows the cash flow from operating activities is increasing year by year and it is sufficient to cover the negative cash flow from investing and financing activities. Finally the closing cash balance of NTC is all the fiscal year were positive and increasing year by year. This shows the good condition of cash balance in the company but remains the danger of idle cash balance if the closing cash balance increases. Therefore, the company should adopt the effective cash management policy for the better utilization of cash.

4.3 Major Findings:

The major findings of this research study are based on the analysis of available data which are as follows:

- I. The budgeted sales unit is in fluctuating trend from 15.73% to 14.42% and 23.91% to 8.94% in the F/Y 2004/05 to 2005/06 and 2006/07 to 2008/09 respectively. Similarly, actual sales unit also is in fluctuating trend from 13.76% to 21.96% and 21.96% to 4.19% in the F/Y 2005/06 to 2006/07 and 2006/07 to 2008/09 respectively.
- II. The achievement in sales unit could not met during the research period. The highest achievement in units was 84.15% in the F/Y 2004/05. But achievement in sales revenue the budgeted sales revenue met except in one fiscal year. Achievement in sales revenue of the four fiscal year is more than 100%.

- III. The trend line equation by least square method shows that the actual revenue in the F/Y 2008/09 will be Rs. 11040353 (In thousand).
- IV. The 't' test distribution shows that there is no significant difference between the budgeted sales and actual sales of NTC.
- V. The analysis of category wise achievement of sales revenue of NTC shows that there was 109.73% achievement in average. The highest achievements were in Fax, Telegraph & pay phone i.e.176.66% and lowest achievements were 70.29% of Vsat/WLL/Satellite phone category. But in these two categories, NTC has not been generating significant revenue.
- VI. The analysis of category wise contribution in sales revenue shows that the category of Local Telephone has the highest contribution with 26.42% in average while the least contribution is 0.14% of Fax, Telegraph & Pay phone. Again, there is a category i.e. in marsat/Sat phone which does not have any contribution in sales revenue.
- VII. The analysis of sales variance in unit (No. of lines) shows the unfavorable situation. Because of the high demand of telephone line there exist gap between the budgeted and actual sales of no. of telephone line. The local calls are increasing at this stage but the revenue per line is decreasing. It is due to the bad governance. But the sales variance in Rupees shows the favorable situation except in the fiscal year for the company. It is clear that NTC is realizing actual revenue more than the budgeted revenue which is good signal for the company.
- VIII. The analysis of profit and loss shows that NTC is generating maximum profit during the whole research period. Percentage of profit in total revenue is more than 40% in all the fiscal year.

- IX. The regression line calculated by least square method shows the expected profit Rs. 6700255.20 (In thousand) for the F/Y 2009/10.
- X. The correlation coefficient (r) of total revenue and profit is 0.79 which shows that the correlation is highly positive. This means they move to the same direction.
- XI. The coefficient of determination (r^2) is 0.62 i.e. 62%. This means that profit is expanded up to 62% only by total revenue and the remaining portion 0.38 i.e. 38% is expanded by other factors.
- XII. The probable error (P.E) of correlation coefficient is 0.1144 which is six times less than correlation i.e. $0.79 > 0.69$. hence, the correlation coefficient is significant.
- XIII. Correlation and coefficient value show that there is a positive relationship between total sales revenue and profit. By the help of regression line, it is clear that future revenue will increase with the increment of total revenue if other things remaining the same.
- XIV. The review of overall cash management aspect of NTC shows that there was satisfactory cash balance in the company. Cash to current liabilities ration was also highly satisfactory with the average of 2.47 times. Similarly, the cash flow projection shows that actual cash collection was higher than the projected but actual cash application was lower than budgeted in all the fiscal year during the research period.
- XV. The analysis of the cash flow statement shows that cash flow from operating activities was positive and in increasing trend. But cash flow from investing and financing activities was negative. Closing cash balance was positive in all the fiscal year and in increasing trend.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary:

Planning is the essence of management. Without it, efficient management can not be imagined. Management planning provides the basis for performance. In NTC revenue results from the sale of telephone service which is measured by the charges made to customers. Revenue is influenced by both internal and external factors. Most of the corporate planning process begins from revenue planning which co-ordinates the effort of revenue department, production department and all other departments. Many factors should be considered for revenue planning including revenue trends, limitations of supply, potential competitors and general level of economy.

Cash management is concerned with the decision regarding the short term funds influencing overall profitability and risk involving in the firm. The management of cash has been regarded as one of the conditioning factors in the decision making issue. It is, no doubt, very difficult to point out the volume cash of needed by a particular company. It is very essential to analyze and find out the solution to make an efficient use of funds for minimizing the risk of loss and to attain profit objectives.

Since the establishment of Nepal Telecommunication Corporation, for the past 29 years it has been providing reliable and affordable telecommunication services to the nation. Nepal Telecommunication Corporation was dissolved and converted into Nepal Telecom from 1st Baisakh 2061. It was registered under the Company Act 2053. The privatization of Nepal Telecom has been proved to be beneficial for the

efficient operation of the company. Nepal Telecom has growing concern of greater national importance in the area of providing telecommunication services and to serve as an impetus to the social, political and economic development of the country. Nepal Telecom has been enjoying monopoly in telecommunication sector except UTL and Spice Nepal. However, the company is continuously facing problem of cash management due to the improper management of revenue and increasing debtors. Further more, Nepal Telecom has been investing a large amount of net profit in non-productive sectors that increases the operating expenses which never help it to generate the revenue. So, the objective of this study is to have true insight into its "Revenue planning and cash management". If Nepal Telecom is able to manage revenue efficiently, undoubtedly the company can manage its cash very effectively. In the light of this fact, the study has attempted to provide a possible suggestive framework for the better revenue planning and cash management of Nepal Telecom.

As per the nature and requirement of the study, secondary data are used with the descriptive and analytical research design. For this research study five years data from the fiscal year 2004/05 to 2008/09 has been used. Data are tabulated and presented as per the requirement of the study.

For the analysis of data different statistical tools like arithmetic mean, standard deviation, coefficient of correlation, coefficient of variation, coefficient of determination, probable error of correlation, regression graph, diagrams and hypothesis testing have been used. Similarly, financial tools such as ratio analysis and variance analysis have also been used.

This study has been organized in five main chapters consisting of introduction, review of literature, research methodology, presentation and

analysis of data and summary, conclusion and recommendation. Besides this bibliography and appendix has also been included in this research study.

The sales performance of Nepal Telecom was satisfactory and sales revenue was in increasing trend but rate of increment was in fluctuation. The company's main source of revenue is Local Telephone service which covers 26.42% of total revenue and second highest contributing sector is STD. Thus, these two sector has been playing crucial role in generating revenue if compared to other category. As a matter of fact, Nepal Telecom is still unable to provide telephone services according to consumer's demand. Therefore, Nepal Telecom needs to improve its quality of services through proper standardization which may help to increase its revenue and profit.

Throughout the study, it is found that Nepal Telecom has huge amount of cash and bank balance. Cash is an inevitable means and ends for the business operation and it must be held in sufficient. Holding of cash both in excess and insufficient than requirement may lead a firm to serious problems. Nepal Telecom has enough cash but it is found that the cash management of Nepal Telecom is not effective. Basically, efficient cash management is concerned with the management of cash inflow and out flow but the figure and data shows the inability of effective cash management of Nepal Telecom because it is lying idle.

The main source of cash of Nepal Telecom is sales revenue received from telephone services. Besides this source, company receives income from the sale of materials, maturity of financial investment and other. Company uses its cash to purchase telephone exchange, materials, capital expenditures, administrative expenses, employee cost and operating & maintenance cost etc. The company holds cash for transaction motives.

Despite this fact, Nepal Telecom has getting effort for the effective cash management which helps the company to maintain sufficient liquidity and to improve its profitability.

5.2 Conclusion:

Having analyzed the overall revenue planning and cash management of NTC, the following conclusions are drawn.

During the whole study period, the actual sales achievement in units or no. of lines is lower than the budgeted targets. This fact is realized due to ineffective implementation of budget. The actual sales achievement in Rupees is higher than budgeted. This is the contradictory situation for the company considering the fact that an actual sales unit is lower than budgeted. This fact is also realized due to high price charged by the company taking advantage from its monopoly situation in telecommunication sector.

The category wise achievement in sales revenue shows fluctuating average which is due to ineffective planning. So, the categories having average below hundred percent should be increased. NTC should get consistency in the contribution of different category for the total revenue especially in some category such as internet, telex and fax and telegraph & pay phone.

During the whole research period, there is no any contribution of in marsat, sat phone category. So, this category should be stopped. NTC has been generating highly satisfactory profit during the whole research period. So, it is a profitable organization but the profit is based on high price charge by the company.

NTC has failed to make collection plans of next year on the basis of previous year collection. The relationship between budgeted and actual sales is positive. Therefore, it can be concluded that the actual sales revenue in future will be increased.

NTC has not exercised in preparing monthly budget which is extremely necessary for planning and controlling. The balance sheet and cash budget of Nepal Telecom shows the huge amount of cash and bank balance lying idle and it indicates some deficiencies of the company to utilize its liquid assets. So, Nepal Telecom could not make the best use of available cash balance prudently.

The cash collection efficiency in Nepal Telecom is better through which the company can maintain desire level of cash balance but the company has not determine optimum cash balance. The cash and bank balance with respect to current liabilities shows that the company has enough cash to pay the current obligation. In overall, Nepal Telecom has positive cash flow which is good for the company but the company has not clear policy to invest excess cash. Thus, the company has faced the problem of effective cash management

5.3 Recommendations:

Revenue planning and cash management is the essence of management. Financial efficiency is essential for achieving the goals and objectives of every business enterprises. Based on the overall research study, the following recommendation are made for the efficient formulation and implementation of revenue planning and cash management of Nepal Telecom.

- I. Budgeted target of sales unit or no. of line has not been met but the demand of telephone line is higher. Thus, Nepal Telecom should follow management by objectives (MBO) techniques to maintain co-ordination, among the different regional branches, departments and employees.
- II. The financial position of the company should timely be evaluated by the help of ratio analysis and other relevant financial and managerial tools.
- III. Nepal Telecom should follow the proper cash planning to estimate cash collection and payments accurately which helps to control the cash flow very effectively. Similarly, NTC should follow various cash management techniques such as Baumol & Miller-Orr model etc. which can be applied to predict the optimal cash balance.
- IV. NTC should forecast planned collection for the next year on the basis of actual cash collection of previous year.
- V. NTC is keeping excess cash balance which is the main cause of idle cash. Therefore, NTC should determine its optimum cash balance. Then, excess cash balance should be invested in productive sector so that idle cash balance would not occur.
- VI. The company's liquidity position is satisfactory. However, it is important for the company to estimate how much fund is necessary to maintain liquidity position and to invest the surplus cash funds in marketable securities or profitable opportunities to generate revenue.

VII. Nepal Telecom should develop & follow the long term strategy related to revenue planning and cash management which is very important to generate maximum revenue and maintain adequate cash in long term. Moreover, the company must use such strategy to shorten the cash conversion period so that it can be helpful for ' close the cash flow gap.

VIII. Nepal Telecom should try to reduce overdue amount of receivables. NTC should provide incentives to its employee to encourage them for the collection of overdue amount of receivable. Moreover, NTC should establish separate department for the collection of old debt (defaulters) that will help to monitor revenue collection. In revenue collection process any kind of undue influence (especially political), nepotism and biases should strictly be discouraged.

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APPENDIX-I

Calculation of Arithmetic mean, Standard deviation, Co-efficient of variation of Budgeted and Actual sales revenue.

In Rs. '000'				
Fiscal Year	Budgeted Sales (X)	Actual Sales (Y)	x^2	y^2
2004/05	5724.63	6156.02	2767332.06	3674658.96
2005/06	6383.87	7208.09	1008598.40	748000.12
2006/07	7316.55	8002.90	5127.99	4908.40
2007/08	8819.06	8584.14	2047474.81	261304.99
2008/09	8696.68	10413.65	1712224.59	5478829.68
	X X36940.79	Y X40364.80	x^2 X7540757.85	y^2 X10167702.15

(A) Budgeted Sales:

a. Arithmetic Mean $\bar{X} = \frac{\sum X}{n} = \frac{36940.79}{5} = 7388.16$

b. Standard

Deviation $\sigma_x = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{7540757.85}{5}} = 1228.07$

c. Coefficient of

Variation $C.V._x = \frac{\sigma_x}{\bar{X}} \times 100 = \frac{1228.07}{7388.16} \times 100 = 16.52\%$

(B) Actual Sales:

a. Arithmetic Mean $\bar{Y} = \frac{\sum Y}{n} = \frac{40364.80}{5} = 8072.96$

b. Standard

Deviation $\sigma_y = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{10167702.15}{5}} = 1426.02$

c. Coefficient of

$$\text{Variation } fC.V._y = \frac{t_y}{Y} | 100 \times \frac{1426.02}{8072.96} | 100 \times 17.66\%$$

%

APPENDIX- II

Category	2004/05			2005/06			2006/07			2007/08			Budgeted	Actual
	Budgeted	Actual	Achievement (%)	Budgeted	Actual	Achievement (%)	Budgeted	Actual	Achievement (%)	Budgeted	Actual	Achievement (%)		
Local Telephone	1377550	1516042	110.05	1819352	2067275	113.63	2008237	2114740	105.30	2100242	2320196	110.47	2487032	26
STD	1601000	1535095	95.88	1714516	1506418	87.86	1619933	1569356	96.88	1584472	1658897	104.70	1799821	17
ISTD	1250000	1307993	104.64	963104	1096186	113.82	1153404	1172153	101.63	1174098	1235763	105.25	1377528	14
Telex	19517	15822	81.07	16114	13248	82.21	13132	-	-	-	-	-	-	-
Fax, Telegraph & Payphone	1011	1293	127.89	7875	17752	225.42	21618	-	-	-	-	-	-	-
Leased Circuit & other service	19274	30395	157.70	31786	29618	93.18	16655	27369	164.33	45188	7969	17.64	63955	11
Mobile	484128	414217	85.56	709200	336354	47.43	1019092	1570887	154.15	1979461	1324989	66.94	1093948	18
Internet	15000	14341	95.61	29000	18781	64.76	17000	18355	107.97	19000	-	-	19150	22
Vsat/WLL/Satellite Phone	4982	-	-	15700	3141	20.01	54145	18490	34.15	63350	65688	103.69	40975	50
Inmarsat, Sat phone	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sales of materials & other	311167	305982	98.33	397221	404139	101.74	393331	288698	73.40	353248	306782	86.85	471775	55
International Sharing	640000	1014842	158.57	680000	1746175	256.79	1000000	1222855	122.29	1500000	1663859	110.92	806770	-
Total	5724629	6156022		6383869	7208087		7316548	8002903		8819059	8584143		8160954	85

APPENDIX- III

Category	2004/05		2005/06		2006/07		2007/08		2008/09	
	Actual sales	Contribution (%)	Actual sales	Contribution (%)	Actual sales	Contribution (%)	Actual sales	Contribution (%)	Actual sales	Contribution (%)
Local Telephone	1516042	24.63	2067275	28.56	2114740	26.42	2320196	27.03	2653070	25.48
STD	1533095	24.91	1506418	20.81	1569356	19.61	1658897	19.33	1762366	16.92
ISTD	1307993	21.25	1096186	15.14	1172153	14.65	1235763	14.40	1469365	14.11
Telex	15822	0.26	13248	0.18	0	0.00	0	0.00	0	0.00
Fax, Telegraph & payphone	1293	0.02	17752	0.25	0	0.00	0	0.00	0	0.00
Lease circuit & other services	30395	0.49	29618	0.41	27369	0.34	7969	0.09	119526	1.15
Mobile	414217	6.73	336354	4.65	1570887	19.63	1324989	15.44	1886826	18.12
Internate	14341	0.23	18781	0.26	18355	0.23	0	0.00	28475	0.27
Vsat /WLL/ satellite phone	0	0.00	3141	0.04	18490	0.23	65688	0.77	50524	0.49
Inmarsot,so t phone	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sale of materials & other	305982	4.97	404139	5.58	288698	3.61	306782	3.57	550202	5.28
International sharing	1014842	16.49	1746175	24.12	1222855	15.28	1663859	19.38	1893301	18.18
Total	6154022	100	7239087	100	8002903	100	8584143	100	10413655	100

APPENDIX- IV

Relationship between Total Revenue & Profit:

Total Revenue is assumed to be independent variable denoted by 'X' and Profit as assumed to be dependent variable denoted by 'Y'.

Fiscal Year	Total Revenue (X) (In Rs. '000')	Profit (Y) (In Rs. '000')	$\sum x$	$\sum y$	$\sum x^2$	$\sum y^2$	$\sum xy$
2004/05	6156.02	2467.93	-1538.28	-997.06	2366305.36	994128.64	1533757.46
2005/06	7208.09	3087.78	-486.21	-377.21	236400.16	142287.38	183403.27
2006/07	8002.90	3290.12	308.60	-174.87	95233.96	30579.52	-53964.88
2007/08	8584.14	3542.46	889.84	77.47	791815.23	6001.60	68935.90
2008/09	8520.35	4936.65	826.05	1471.66	682358.60	2165783.16	1215664.74
	$\sum X = 38471.50$	$\sum Y = 17324.94$	$\sum x = 0$	$\sum y = 0$	$\sum x^2 = 4172113.31$	$\sum y^2 = 3338780.30$	$\sum xy = 2947796.49$

A) Total Revenue (X):

a. Arithmetic Mean $\bar{X} = \frac{\sum X}{n} = \frac{38471.50}{5} = 7694.30$

b. Standard

Deviation $\sigma_x = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{4172113.31}{5}} = 913.47$

c. Coefficient of Variation

$C.V. = \frac{\sigma_x}{\bar{X}} \times 100 = \frac{913.47}{7694.30} \times 100 = 11.87\%$

B) Profit (Y):

a. Arithmetic Mean $\bar{Y} = \frac{\sum Y}{n} = \frac{17324.94}{5} = 3464.99$

b. Standard

Deviation $\sigma_y = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{3338780.30}{5}} = 817.16$

c. Coefficient of

$$\text{Variation } C.V._y = \frac{\frac{\sum y}{Y}}{\frac{\sum y^2}{Y}} \times 100 = \frac{817.16}{3464.99} \times 100 = 23.58\%$$

C) Coefficient of Correlation (r) Between Total Revenue and Profit (r_{xy}):

We have,

Coefficient of Correlation (r_{xy})

$$= \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{2947796.49}{\sqrt{4172113.31} \sqrt{3338780.30}}$$

$$= \frac{2947796.49}{2042.58 \times 1827.23} = 0.79$$

D) Coefficient of Determination $r^2 = 0.79^2 = 0.62 = 62\%$

E) Probable Error of Correlation Coefficient

$$P.E. = r \times \frac{1}{\sqrt{n}} = 0.6745 \times \frac{1}{\sqrt{5}}$$

$$= 0.6745 \times \frac{1}{\sqrt{5}} = 0.1144$$

APPENDIX- V

	2004/05			2005/06			2006/07			2007/08		
Desc ription	Bud gete d	Act ual	Achie veme nt (%)	Bud gete d	Act ual	Achie veme nt (%)	Bud gete d	Act ual	Achi eve men t (%)	Bud gete d	Act ual	A e m t (%
Cash Coll ectio n:												
Tota l Inter nal Sour ces	756 979 2	700 502 6	92.54	901 184 7	963 980 6	106.9 7	107 853 87	118 432 17	109. 80	1277 0339	1215 1818	
Tota l Exte rnal Sour ces	169 300	286 55	16.93	460 000	187 450	40.75	130 000			1000 00	-	
Tota l Cash Coll ectio n	773 909 2	703 368 1	90.89	947 184 7	982 725 6	103.7 5	109 153 87	118 432 17	108. 50	1287 0339	1215 1818	9
Tota l Cash Appl icati on	868 317 1	643 772 5	74.14	108 053 34	899 802 3	83.27	129 322 99	100 900 42		1776 3327	1444 4112	8
Ope ning bala nce of cash &	650 980 4	706 278 8	108.4 9	650 980 4	824 213 9		939 211 3	100 977 37		1082 9362	1078 0669	

bank												
Surplus/ Deficit	944 079	595 956		133 348 7	829 223 3		201 691 2	175 317 5		(489 2988)	(229 2294)	
Cash not Incurred	0	583 394		0	102 636 5			566 574		-	1086 125	
Closing balance of Cash	556 572 5	824 213 8	148	517 631 7	100 977 37		737 520 1	124 174 86	168. 37	5936 374	9574 500	1