

**REVENUE PLANNING AND BUDGETING
OF NEPAL TELECOMMUNICATION LIMITED**

A Thesis

**Submitted to the Central Department of Economics, Tribhuvan University,
Kirtipur, Kathmandu, Nepal**

**In Partial Fulfillment of the Requirements for the Degree of Master of Arts in
Economics**

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LETTER OF RECOMMENDATION

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ABBREVIATIONS

ARR	Accounting Rate of Return
BEP	Break Even Point
BOD	Board of Directors
CDMA	Code Division Multiple Access
CRBT	Caller Ring Back Tone
CV	Coefficient Variation
CVP	Cost Volume Profit
EOQ	Economic Order Quantity

Email	Electronic Mail
ERP	Enterprise Resource Planning
GDP	Gross Domestic Product
GPRS	General Packet Radio Service
IRR	Internal Rate of Return
NEA	Nepal Electricity Authority
NPV	Net Present Value
NTC	Nepal Tele Com
PBP	Payback Period
PCC	Public Call Centre
PE	Probable Error
PE's	Public Enterprises
PPC	Profit Planning and Control
PSTN	Public service Telephone Networks
SD	Standard Deviation
SMS	Short Message Service
VAS	Value Added Services
VC	Variable Cost
VMS	Voice Mail Service

CHAPTER I

INTRODUCTION

1.1 Background of the Study

In Nepal, the history of development of industry begins after democracy of 2007 BS. During the Rana regime, they were not interested in the development of the country. Though Biratnagar jute mill, Nepal Bank Ltd, Juddha match factory, Morang cotton mill, Mahendra Sugar mill, Butwal Plywood and Bobio Factory had been established during the regime. They are the parents industries in Nepal. After the introduction of Democracy the government felt the need of the industrialization and started some public enterprises, likewise the government established a separate unit as “UdhyogParisad” and “Industry Department” After the restoration of democracy the department has been recognized with its new name “Cottage and Small Industry Department”.

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 are taking way to 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 negotiation table and entered into the peace process. 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 and enterprises profit and goal achieving machine for facilitating organizational coordination and planning while achieving the budgeted targets" (Bajracharya, et al., 2012: 1.1).

Moreover, a profit plan or budget is the formal expression of the organizations plan 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 sometimes 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 places, 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" (Locke & Bryan, 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 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.

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.

The excess income over expenditure is called profit. The word profit brings for vision of reserves. "Profit doesn't just happen, profit are managed" (Lynch & Williamson, 1989:125).

The concept of profit is not new but concept of profit planning and control is new word in the business literature. It can be defined profit planning and control is a tool of management used in profit making organization. The managerial skill which increase revenue and minimize the cost is called is profit planning and control. Profit planning and control involves long –term commitment waiting for a reward which comes in future and

always remains uncertain. Therefore, every planning entails some degree of uncertainty. So, we can conclude profit planning and control is as an organized and formal approach for realize the planning, synchronization and control responsibilities of management which provides guidelines to the overall management task.

1.2 Brief Introduction of NTC

Generally, private sector enterprises cannot make for huge investment due to lack of necessary resources to shoulder the new responsibility of undertaking and development tasks. These factors force government to take economic activities through establishment of public enterprises.

In the global scenario after 1947 AD, there started some public enterprises following enforcement of industrial policy, which focused the progressive role of the government in the development of industries.

In Nepal, telecommunication service dates back to around 1970 B.S. But formally telecom service was provided mainly after the establishment of MOHAN AKASHWANI in B.S. 2005. Later as per the plan formulated in First National Five year plan (2012-2017); Telecommunication Department was established in B.S.2016. To modernize the telecommunications services and to expand the services, during third five-year plan (2023-2028), Telecommunication Department was converted into Telecommunications Development Board in B.S.2026. After the enactment of Communications Corporation Act 2028, it was formally established as fully owned Government Corporation called Nepal Telecommunications Corporation in B.S. 2032 for the purpose of providing telecommunications services to Nepalese People. After serving the nation for 29 years with great pride and a sense of accomplishment, Nepal Telecommunication Corporation was transformed into Nepal Doorsanchar Company Limited from Baisakh 1, 2061. Nepal Doorsanchar Company Limited was a company registered under the Company Act 2063. However the company is known to the general public by the brand name Nepal Telecom as registered trademark. As the dawn of 21st century, NTC has launched internet service from May 4th 2000 website <http://www.ntc.net.np/> to provide all company information and various telecommunications services being provided.

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

Definitely Nepal Telecom's widespread reach will assist in the socio-economic development of the urban as well as rural areas, as telecommunication is one of the most important infrastructures required for development. Accordingly in the era of globalization, it is felt that milestones and achievements of the past are not adequate enough to catch up with the global trend in the development of telecommunication sector and the growth of telecommunication services in the country will be guided by technology, declining equipment prices, market growth due to increase in standard of life and finally by healthy competition.

Converting NT from government owned Monopoly Company to private owned, business oriented, customer focused company in a competitive environment, Nepal Telecom invites its all-probable shareholders in the sacred work of nation building.

As the political scenario of the country as well as globally has changed in the last few years, it is having impact on telecommunication sector also. The demand for all kinds of telecom services, especially GSM mobile and CDMA have increased exponentially all over the country in an unprecedented manner. Although this phenomenal growth in demand could be construed as good news from business point of view, the resulting demand-supply gap with long waiting lists in all cities, towns and villages is being misrepresented as the result of the incumbent Nepal Telecom inefficiency. The crux of the matter is that combined results of sudden improvement in the security situation throughout the country as well as affordability of telecom services especially GSM mobile and CDMA due to low pricing policy adopted by NTC has created this avalanche of demand, which under no circumstances could be fulfilled within next few months' time. Of course, Nepal Telecom has already initiated steps to expand both GSM and CDMA.

“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 within 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 within 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 is essential for such integration” (Annual Report, 2008-2009: 17).

The study mostly deals with the 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 are earning relatively good profit and paying highest tax payer to Nepal Government The main purpose of establishment of company in Nepal was to strengthen the administrative efficiency of the government in Nepal was to strengthen the administrative efficiency of the government. Nepal Telecom, even with its becoming a dominant player in the telecommunication sector, giving an affordable and the cheapest possible services to all regions including the remotest and the cheapest possible services to all regions including the remotest areas of kingdom retaining its present financial health even in the coming competitive environment. The national goal of Nepal Telecom is to provide affordable telecommunication services to all nooks and corners of the kingdom. It was later expanded to serve the needs of development of various sectors as expansion of foreign trade tourism development and international integration.

1.3 Capital Structure of NTC

Capital Structure refers to the way a corporation finances its assets through some combination of equity or debt. A firm's capital structure is then the composition or 'structure' of its liabilities. Capital structure may be highly complex and include dozens of sources. Gearing Ratio is the proportion of the capital employed of the company which

come from outside of the business finance, e.g. by taking a short term loan etc. The capital structures of NTC are as follows:

Amount in Millions

Particulars	2008/09	2009/10	2010/11	2011/12	2012/13
Paid up Capital	15,000	15,000	15,000	15,000	15,000
Add : Reserve & Surplus	26,629	32,150	30,296	34,474	38,635
Shareholder Fund (a)	41,629	47,150	45,296	49,474	53,635
Debt (b)	-	-	-	-	-
Total Source of Fund (a+b)	41,629	47,150	45,296	49,474	53,635

, Source: Annual Report of NTC

The other objectives of Nepal Telecom are as follows(www.ntc.net.np):

- To provide high quality, reliable and economic services including remotest area of the nation.
- To exchange information for the preparation of fundamental for development of nation.
- To establish telecommunication links among the countries around the world.
- To make participation of the public in telecommunications so as to up lift their living standard.
- To provide prompt services to the places of demand.
- To introduce new technologies and cope up with time and tradition.

The beginning point for the evaluation of existing revenue effectiveness is to analyze past trends of planned sales revenue and actual sales revenue. Sales plan is prepared by NTC on the basis of sales forecast. Sales forecasts have to be translated into a sales plan after adjustment of various factors associated with sales still, NTC in unable to meet the

demand of the public. That may be due to lack of proper planning, financial resources and technical know how to meet the demand of day-to-day increment of telephone services. NTC has installed more and more exchanges around the country and expanded its network. Nepal Telecom has supplied with telephone line by CDOT Exchange, MARTS, UHF, VHF, JICA, Microwave station and HF exchange. The total subscribers of NTC up to February 2013 were 8,503,895 lines where Subscriptions of GSM & CDMA mobile services were 69.17Lacs & 9.51 Lacs respectively. Converting Nepal Telecom from government owned Monopoly Company to private owned, business oriented, customer focused company in a competitive environment; it invites its all-probable shareholders in the sacred work of nation building. As the leading for the foreign investment and has also provided required guarantee for the foreigners.

NTC has been investing a large amount of net profit in non-productive activities, which never help it to generate the revenue. Therefore, the company is compelled to depend on donor agencies and foreign government. The operating expenses of NTC also have been increasing in each fiscal year, which is the main cause of decrement of net profit. Similarly, the operating expenses have increased in NTC due to increases in the volume of transaction.

Since, telecommunication is informative services, many fields such as agriculture, business, transaction and other socio-economic sectors use these services heavily. Telephone 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 informative world from traditional to modern system. NTC is the role institution in the state to provide telephone services. It has offered price and position. NTC 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, change 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 telecommunications market introduced by the policy of Nepal Government. GSM mobile phone capacity has been increased and expanded to the all Nepal.

Under the ongoing Eleventh National Plan, Nepal Telecom plans to launch 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 plans to expand new network, thereby will help modernizing the overall national telecommunication infrastructure of Nepal.

Nepal Telecom generates its revenue by providing different type of services basic fixed line services, GSM mobile, internet, lease line etc. Apart from these the source, which generates significance revenue for the company, is international settlements from international call. Nepal Telecom, due to its nature of business, has to transact with significant number of customers in addition to dealing with foreign carriers for its international sharing revenue.

Nepal Telecom has two different ways of revenue collection process.

a. Collection through Counters

In smaller exchange collection being done manually from various places, Collection of cash has been done through online cash collection process, which has become better efficiency than manual cash collection. For the sake of increasing efficiency Nepal Telecom collects its revenue online its exchange having more than 1100 lines.

b. Collection through the Banks

Now, Nepal Telecom has started collection its revenue through the banks counter also. Like in Mobile's cash Nepal Investment Bank, Bank of Kathmandu, Kumari Bank and other 24 financial institutions etc. As a result subscriber is able to pay their dues at their nearest bank's outlets as per their convenience. Similarly also in PSTN's case here in Kathmandu Valley, already Bank of Kathmandu, Kumari Bank, Nepal Investment Bank, Nepal Industrial and Commercial Bank, Machhapuchare Bank, Laxmi Bank, Banijya

Bank are collecting the revenues for Nepal Telecom and other banks have also participated in PSTN revenue collection process.

In Nepal, Nepal Telecom, United Telecom Limited, Ncell, Nepal Satellite, Smart Telecommunication etc are the companies which provide the telephone services. In fiscal year 2011/12, Nepal Telecom earned Rs32, 807 million which contributes 46% from GSM Mobile Services, 33% from Inter- administration revenue, 15% from Basic Telephone Services and 6 % from CDMA Phone Services in total income.

Still, Nepal telecommunication is unable to meet the demand of the public. This may be due to lack of proper planning, financial resources and technical knowhow. This has directly hampered the other activities of the country.

A good communication system is a must for the success of the socio-economic and political development of the country. Nepal Telecom is the leading and largest company serving in the telecommunication sector in Nepal. Profitability is the major indicator of the financial performance of each enterprise. The net profit of company is too high. But, the amount of revenue is very low in comparison to the investment on total assets. This shows how the assets have not been utilized. Property and the resources are just lying without any significant use. All business works begin with the provision of sufficient cash to do business. Cash as a means and ends of business operations must be held in sufficient quantity. Holding of cash both in excess and insufficient than requirement may lead a firm to problems. Shortage of cash put obstruction in the way of production where as excessive cash than requirement contribute nothing to the profitability of firm as idle cash earns nothing. Thus, Nepal Telecom's financial manager has to confront the problem of maintaining adequate or optimal level of cash, which posses risk and also does not put negative impact of firm's profitability, Efficient cash management is concerned with the management of cash inflow, outflow and cash flow within the firm and includes the matters relating to financing of deficit and investment of surplus cash to maintain optimum cash balance. The basic issue of cash management is to enable a firm maintain sufficient liquidity and at the same time improve its profitability.

The general objectives 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.

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

1.5 Statement of the Problems

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 budgeting 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, et al; 2004:23).

The major problem may arise in planning and implementation of budget in coordinating overall objectives. For effective implementation of budgetary program coordination unit and organizational goal in a single bowl is necessary so that entire units works can be coordinated for the achievement of organization goal. Organization success is depended

on the planning of the company whether sales planning current study will analyze the following problem of NTC.

- Is revenue planning in NTC effectiveness?
- Is role of budget for control mechanism the proper or not?
- What about the consistency of budgeted and actual revenue in NTC?
- What kinds of tools and techniques are adopted for revenue planning?

1.6 Objectives of the Study

The main objective of this study is to search and highlight the role of revenue planning in the performance of NTC. Therefore the other objectives of this study are:

- To analyze annual revenue of NTC.
- To study and evaluate the pattern of revenue generation of NTC.
- To sketch out the use of revenue planning tools and techniques.

1.7 Significance of the Study

Every Organization should systematically plan in activities. Planning is important for growth and development for an enterprise. It also helps in making managerial decisions. A proper planning process helps to achieve organization objective easily.

Revenue planning is the corner stone for every planning, thus proper planning of revenue is necessary for each organization. This study is more significant to public enterprises as it examines the relation of sales planning with other functional planning like production, inventory etc. The study will be useful and beneficial to all the interested parties concerned with sales planning. It will provide valuable suggestions and ideas to people related in revenue planning.

1.8 Limitations of the Study

Each research needs detailed authentic information. This study is related with the Revenue planning & budgeting of NTC. NTC is taken as random sample for evaluation covering five fiscal years data.

Thus, this study is not free from the following limitations:

- It covered only five fiscal years actual data (audited data) i.e. from the fiscal year 2008/09 to 2012/13.
- All the data used in the study were secondary data.
- This study was concerned only with revenue planning and budgeting of NTC.
- The current year data (i.e. fiscal year 2013/14) could not be incorporated in this research work due to non-availability of recent data despite of the researcher continuous effort to obtain it.

1.9 Organization of the study

The study is organized into the following chapters.

Chapter –I Introduction

This includes background of the study, brief introduction of NTC, Capital Structure of NTC, Organization structure of NTC, Statement of problem, Objective of the Study, Significance of study, Limitations of the Study and Organization of the Study.

Chapter– II Conceptual Framework and Review of Literature

This includes review of books, report, journals, previous unpublished thesis with objectives & findings and related websites.

Chapter – III Research Methodology

This includes research design, the population and sample, period covered nature and sources of data, data collection technique and data analysis tools.

Chapter – IV Presentation and Analysis of Data

The various types of data collected through different sources have been presented in systematic order. This further includes presentation and analysis of Income Statements, balances sheet of five fiscal years, correlation & regression analysis and other necessary statistical tools were used in this research work based on which study findings are drawn.

Chapter–IV Summary, Conclusions and Recommendations

It contains summary, conclusions and recommendations.

CHAPTER II

CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE

2. Conceptual Framework

2.1 Concept of Revenue

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. According to "Oxford Business Dictionary" revenue means;

- Any form of income earned by the organization in an accounting period.
- Cost and income items that are either charged or credited to the profit and loss account for an accounting period.

"Revenue results from the sale of good and rendering of services and is measured by the charge made to customers, client or tenants for goods and services furnished to them. It also 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 adjustment. Revenue from sales or other transaction ordinary course of business is sometimes described as operating revenue" (Bhattacharya & Dearden, 1980:137).

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 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, et al., 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” (Singh&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, 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, et al., 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.

I. 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.

II. 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).

2.1.3 Preparation of Revenue Planning

"A planner should be completed the following steps for planning the revenue" (Welsch, et al., 1999:176-182).

They are listed below:

Step1. 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.

Step2. Prepare 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.

Step3. Assemble Other Relevant Data:

In addition to step1 and step 2, 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.

Step4. Develop the Strategic and Tactical Sales:

Using the information provided 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.

Step5. 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 approve revenue plan. This commitment requires full communication to the sales

manager of the goals: approve marketing plan and strategies by sales responsibilities. The commitment must be strong and ever present in day-to-day operations.

2.2 Budgeting as a Tool of Revenue Planning

A budgeting is a written plan for the future. The manager of firms which use budgets, are forced to plan ahead. Thus, these firms tend to do well because they anticipate problems before they occur. A firm without financial goal may find it difficult to make proper decision. A firm with specific goals, in the form of a budget, makes many decisions ahead of time. Budget helps a firm to control its costs by setting guidelines for spending money for necessary items (Welsch, et al., 2005).

A concept of comprehensive budget covers its use in planning, organization and controlling all the financial and operating activities of the firm in the forthcoming period. Budgeting summarizes the estimated result of future transactions for the entire company in much the same manner as the accounting process records and summarizes the result of completed transactions.

Budget as a tool of planning and control is clearly related to the broader system of planning and control in an organization. Planning involves the specification of the basic objectives that the organization will pursue and fundamental policies that will guide it. In operation term, it involves the step of setting objectives, specifying goals, formulating strategies, and expressed in financial terms, for the operation and resources of an enterprise for same specified period in the future.

Hence, budgeting includes sales, production, distribution and financial aspects of an organization. Budget programs are designed to carry out a verity of function - planning, evaluation of performance, coordinating activities, and implementation of plans.

Budgeting is a comprehensive plan of action prepared for achieving objectives. Budget is plan quantified in monetary term prepared and approved to defined period of time usually showing planned income to be generated expenditure be incurred during that period of the capital to be employed to attain a given objectives of office terminology. It expresses as organization commitment to planned activities and resources acquisition and use. It is

vital part of good planning. It is a formal statement of future plan usually expressed monetary terms. Therefore a budget is (Kishore, 2008:257):

- Essentially a plan (qualified in monetary terms) to attain a given objectives.
- Prepared and approved prior to defined period of time.
- Usually showing planned income to be generated.
- Expenditure to be incurred and
- Capital to be employed during the defined period.

The process of preparing budget is known as budgeting. This is the process of planning future business action and expressing that plan in a formal manner is called budgeting.

2.2.1 Characteristics of Good Budgeting

The characteristics of good budgeting are as follows (Kishore, 2008:257)

- Budgeting may be formulated for the organization as for any subunit.
- A good system of accounting is also essential to make the budgeting useful.
- A budgeting is a quantitative expression of a plan of action and aid to co-ordination and implementation.
- A good budgeting system should involve persons at different levels while preparing the budgets; the subordination should not feel only imposition on term.
- Budgets are designed to carry out a variety of function planning, evaluating activities and implementation.

2.2.2 Objectives of Good Budgeting

The main objective of budgeting is as follows(Welsch, et al., 2000:175).

- It is a plan, which reflects the policy of a business in financial terms. It is a plan of action and serves as a declaration of policies.
- It is a control document by which management can monitor actual performance.
- It is the plan to forecast for to avoid losses and to maximize profits, i.e. to help in planning.

- It is a plan to state the firm's expectation in clear, formal term to avoid confusion and to facilitate their attainability.
- It is a plan to bring about co-ordination between different function of an enterprise, i.e. to help in co-ordination.
- It is a plan to communicate expectation to all concerned with the management of the firm so that they are understood, supported and implemented.
- It acts as a motivator of employee.
- It provides a means of co-ordination and communication.
- It is measure against which to evaluate the quality of management.

2.2.3 Classification of Budgets

The classifications of budgets are as follows:-

A) On the basis of time

1. Long term Budget
2. Short term Budget
3. Current Budget

B) On the basis of function

1. Sales Budget
2. Production Budget
3. Direct material Budget
4. Direct labor cost Budget
5. Direct material purchases Budget
6. Cost of production Budget.
7. Selling and distribution expenses Budget.
8. Cash Budget.
9. Capital Budget.

C) On the basis of flexibility

1. Static Budget
2. Flexible Budget

D) On the basis of nature of business activities

1. Capital expenditure Budget

2. Operating expenditure Budget

2.2.3.1 Sales Budget or Plan

A. Introduction

After the planning premises have been received, the development of sales plan is the major step in the preparation of profit plans. In practical sense, sales plan is the starting point for the development of the profit plan. The sales forecast is the starting point for budgeting because inventory level, purchases and operating expenses are generally geared to the rate of sales activity. “Sales plan is the starting point in the preparation of the comprehensive profit planning and control” (Welsch, et al., 2000:177).

All the other plans and budgets are dependent upon the sales budget. The budget is usually presented in units and currency terms (the sales revenue or sales volume). The preparation of sales plan is based upon the sales forecast where various methods are used to forecast the sales for the planning period.

The sales plans are foundation for periodic planning in the firm because particularly all other enterprise planning builds on it. The primary source of cash is sales; capital addition need the amount of expenses to be planned, the manpower requirement, the production level and other important operational aspect depend on the volume of sales. Therefore, the sales plan must be realistic. The sales plan has three distinct parts:

- The planned volume and the selling price per unit for each product.
- The sales promotion plan and
- The sales or distribution expenses plan. The sales budget itself is an estimate of main three figures. They are income to be earned, cost and expenses incurred for such sales and sales surplus which will be sold.

Sales plan forecasts what the business can expect to sell to its customers during the budget period. The primary purposes of sales plan are:

- To reduce uncertainty about future revenues,
- To incorporate management judgment and decision into the planning process,
- To provide necessary information for developing other elements of comprehensive profit plan, and

- To facilitate management's control sales activities.

Sales in units can be computed as follows:

Particulars	Units
Opining stock (inventory) of finished goods	XXXX
Add: Planned production	XXXX
Total	XXXX
Less: Closing stock of finished goods	XXXX
Planned Sales	<u>XXXX</u>

(Sources: Kishore, 2008: 262)

B. Sales Planning and Sales Forecasting

"Sales planning and forecasting often are confused. Although related, they have distinctly different purpose. A forecast is not plan rather it is a statement and/or a quantified assessment of future conditions about a particular subject (e.g. sales revenue) based on the one or more explicit assumptions. A forecast should always state the assumption upon which it is based. A forecast should be viewed as only one input into the development of a sales plan" (Kishore, 2008: 264).

The management of a company may accept, modify or reject the forecast. In contrast, a sales plan incorporates management decisions that are based on the forecast. Other inputs and management judgments about such related items are sales volume, prices, sales efforts production and financing.

A sales forecast is corrected to a sales plan when management has brought to bear management judgments, planned strategies, commitments of resources, and the managerial commitment to aggressive actions to attain the sales goals. In contrast, sales forecasting is technical staff function. Sales forecasts are conditional. The internal technical staff of the organization is not involved to make the fundamental management

decisions' and judgments are used to mold the sales plan, sales forecasts are done by the technical staff on the basis on the basis of qualified data.

Now it is clear that sales plans are formulated by top executive on the basis of strategies. Objectives and guide lines as well as considering the forecast and sales forecast is the job of technical staffs who estimate sales on the basis of their past knowledge and experience. And this estimate is used in formulating sales plan.

C. Strategic and Tactical Sales Planning

A comprehensive sales plan includes two separate but related plans, the strategic and the tactical sales plan. The strategic sales plan is a long term sales plan and it is usually covers at 5 or 10 years' time horizon. Whereas tactical sales plan has shorter time horizon and usually covers one year period for future detailing the plan initially by quarters and by months for the first quarter. The sales plan is restudied and revised by adding a period in the future and by dropping the period just ended (Ackoff, R.K., 1970).

Thus tactical sales plans are usually subject to review and revision on a quarterly basis. The short-term sales plan includes a detailed plan for each major product and for groupings of minor products. Tactical sales plans are usually developed in terms of physical units (or jobs) and in sales and /or service dollars. To establish policy about detail in the short- range sales plan, the main question is for the use of the results. First, the major consideration is to provide detail by responsibility for planning and control purpose. Second, the short-range sales plan must functional managers. That is, the production managers will need sufficient detail for planning production. Levels and capacity needs. The financial manager will need sufficient detail for assessing and planning cash flows, unit product costs; inventory needs and so on. Third, the amount of detail also depends on the type of industry, size of the firm, availability of resources, and use of results by managements.

D. Components of Sales Plan

The component of comprehensive sales plans as follows(Kishore, 2008: 265):

- Management policies and assumptions.
- Marketing plan (sales and services revenues)

- Advertising and promotion plan.
- Distribution or selling expenses plan.

E. Developing a Sales Plan

Following steps are followed to develop comprehensive sales plans(Kishore, 2008: 268):

Step 1 Develop management guidelines for sales planning.

Step 2 Prepare one or more sales forecast.

Step 3 Assemble other relevant data.

- Manufacturing capacity.
- Sources of raw material and supplies or goods for resale.
- Availability of key people and a labor force.
- Capital availability.
- Availability of alternative distribution channels.

Step 4 Develop the strategic and tactical sales plan. There are five different participate approaches are as below:

- Sales force composite (maximum participation)
- Sales division managers composite (participation limited to managers only)
- Executive decision (participation limited to top management)
- Statistical approaches (technical specialists plus limited participation)
- Source managerial commitments to attain the goals in the comprehensive sales plan.

F. Evaluation of Alternatives

Developing a sales plan consists of the consideration of various policies and related alternative and a final choice by executive management among many possible courses of action. There are mainly two types of problems to which important consideration should be given while preparing the sales plan.

1. Price-cost – volume consideration in sales planning: In a competitive market, price and sales volume are mutually interdependent. The close relationship between sales volume and price possess is a complicated problem to the management of every

company. Thus, two basic relationships involving the sales plan must consider (Kishore, 2008:271):

- Estimation of the demand curve that is the extent to which sales volume varies at different offering price, and
- The unit cost curve, which varies with the level of productive output.

2. Product-line Consideration: Determination of the number and variety of products that a company will plan to sell is crucial in the development of a sales plan. Sales plan must include tentative decision about new product lines to introduce, old product to be dropped, innovations and product mix.

2.2.3.2 Production Budget or Plan

After preparing the sales plan the next step in comprehensive profit planning and control is the formulation of production plan. Production budget is an estimate of the number of units of product that will be produced in the budget period. The production plan involves determining the number of units (each product) that must be manufactured to meet planned sales and maintain the planned inventory levels of finished goods. It is an estimate of how cheaply the goods required by sales can be made.

Production budget is based estimated sales production must be planned to allow sufficient time to manufacture the products before the estimated data on sales. The annual sales budget and the inventory requirement provide the framework for the production budget. It is prepared on the basis of:

- a. Sales budget.
- b. Plant capacity.
- c. Opening inventory of finished goods and
- d. Required closing inventory of finished goods, and
- e. Policy of management.

In production planning, the following factors are to be considered.

- Economic batch quantity.
- Delivery schedules.

- Seasonal Conditions.
- Optimum utilization of plant capacity.
- Optimum utilization of labor without much over time and idle time.
- Reduction of bottlenecks such as shortage of man, material etc.
- Stock requirements.
- Work in progress.

Production plan entails the development of policies about efficient production levels, use of productive facilities and inventory levels (finished goods and work-in-progress inventory). The quantities specified in the marketing plan, adjusted to conform to production and inventory policies give the volume of goods that must be manufactured by product and by interim time period. Thus, the production budget can be represented in this way.

"Sales volume +/- finished goods inventory change = production requirement"

A complete production loan should show budgeted data, classified by (a) products to be manufactured (b) interim time periods and (c) activates of each responsibility center in the manufacturing process.

A. Objectives of Production Plan or Budget

The objectives of Production Plan are:

- To bring to common focus of all the factors necessary to establish policies and to determine operations.
- To project these establishing policies into the future by an analysis of past performance.
- To plan and control the operations being carried out to implement policies decided upon.
- To plan the sequence of operation required for economical production.
- To co- ordinate the various aspects of factory operation so as to make them aviate link in the chain of profitable program.

B. Responsibility for Production Planning

Production managers are responsible for the development of production plan. The complete marketing plan is given to the production manager for translating it into a production program consistent with managerial policies and subject to certain constraints. Production Managers are fully responsible for production plan and they have also to consider top management policies in respect of (i) inventory level (ii) stability of production and (iii) capital additions (Ackoff, R.K., 1970).

An efficient and coordinated production plan requires the careful attention of executive management, particularly where there is multiple production requiring the determination of both time and place of production. The production manager must plan an optimum co-ordination among sales, inventory and production levels.

C. General Considerations in Production Plan or Budget

The production plan represents the implications of planned sales volume for planned production volume as a basis for planning the various aspects of the manufacturing functions, plant capacity requirements, direct material and component requirements, timing of purchase, direct labor requirements and costs and factory overhead. There must be coordination between sales plans. Production plans, inventory policies and the production budget provides the basis of obtaining the coordination.

The production plan affects so many decisions, therefore; there should be serious consideration in preparing the production plan so, the decisions required to develop the production plan include the following(Kishore, 2008: 341):

- 1) Total production requirement (by product) for the budget period.
- 2) Inventory policies relevant to levels of finished goods and work in progress.
- 3) Plant capacity policies such as the limits of permissible departures from a stable production level throughout the years.
- 4) Adequacy of manufacturing facilities.
- 5) Availability of direct materials, purchases components and labor.
- 6) Economic lots or runs.
- 7) Timing of production throughout the budget period, by product and by responsibility centers.

D. Time Dimension of Production Plan (Long-range Vs Short- range)

To develop a long-range plan, broad estimates of production levels are necessary to plant capacity requirements, factory cost structures, personnel requirements and cash flows. For long-range planning purposes, only major increases or decreases in inventories need to be taken into account. But the short-range production plan should not be planned annually, but detailed by products and by months or quarters. Also the production activities should be planned by responsibility centers within the manufacturing division (Sherilerar, 1983).

E. Developing the Production Plan.

i. Recasting of sales budget

Sales budgets are typically classified according to product line and sales territory. It is necessary to recombine these planned sales figures on a basis that will permit determination of physical input requirements, generally means for individual plants or productive facilities.

ii. Production analysis

This consists of breaking down production into its ultimate parts or components.

iii. Scheduling

It is concerned with fitting the various processes into a general time table to permit orders to be manufactured according to requirements based upon selling estimate.

iv. Dispatching

This covers the movement of materials and stores from the place they are initially deposited to the first process and thereafter from one process to another.

v. Inspection

It is designed to exercise control over the quality of the product to prevent further work on spoiled parts to ensure that payment is made in respect of satisfactory work only, to find and locate faults in machines and to maintain a satisfactory standard of accuracy.

The production budget is phased primarily in physical term units of output, labor hours and material requirements. Annual plans for production costs, purchases manpower and cost of goods sold are all derived from the physical production budget which determines the actual production level by taking into account deviation from planned sales and inventory levels. Moreover, normal loss in many process industries has to be reckoned in estimating production requirements.

The calculation of the planned production of goods as below (Kishore, 2008:262)

Particulars	Units
Planned sales in units or amount	Xxxxxx
Add: desired ending inventory of finished goods	<u>Xxxxxx</u>
Total Requirements	Xxxxxxx
Less: Beginning inventory of finished goods	<u>Xxxxxx</u>
Production for the year	<u>Xxxxxx</u>

F. Production and Inventory Policy

The coordination between the sales plan, inventory level and production requirement comes into focus and resolved in production plan. The production plan fully depends upon inventory level and demand of sales. To plan about inventory level and production level, it is not easy as it depends on variation of sales. So we have to adopt different policies in production level and inventory level which are as follows:

1. Stable production policy

There are fixed production in each month or specified period while inventory levels are changed reversibly to sales volume. If sales increases, inventory level decreases and if sales decrease inventory level increases.

2. Stable inventories policy

Under this policy, inventory levels are fixed in each month or specific period time while production levels are changed due to change in the level of sales. When sales increases, production level also increases and when sales decreases, production level also decreases.

3. Production and inventory within limit or flexible policy

Under this approach flexible units of final inventory are to be maintained for specific period. If sales increases, production level will be slightly increased and stock level will be decreases within a certain limit.

4. JIT production (Just in time production)

The JIT approach to production planning is a recent trend in manufacturing. Japanese companies develop the policy. Under this approach, production must be as per order specification. JIT is a production concept in which virtually nothing is purchased or manufactured units just before it is needed.

G. Considerations in Establishing Inventory

The management should consider the following factors establishing or setting inventory policies:

1. Quantities needed to meet sales requirements.
2. Perishability of items.
3. Length of the production period.
4. Storage facilities.
5. Adequacy of capital to finance inventory, production some time in advance of sales.
6. Distribution of time requirements
7. Cost of holding inventory.
8. Protection against direct material and component shortages.
9. Protection against labor shortages.
10. Protection against materials and parts price increase.
11. Risk involved in inventory.
 - Price declines

- Obsolescence of stock.
- Casualty loss and theft.
- Lack of demand.
- Customer returns policies.

2.2.3.3 Material Plan or Budget

The raw material budget is prepared after production and sales budget. The production budget gives information about the units to be produced and on this basis; the raw material need is estimated. Based on the production budget, the quantities of each material usage lead to the solution of the problem of when and how much to purchases of each material. A comprehensive profit planning and control program includes planning and controlling raw material and components used in the manufacturing of finished products. Adequate coordinate and balance should be planned and controlled in between (i) production requirement for raw material and component parts (ii) raw material and parts inventory levels and (iii) purchases of raw materials.

To assume the right amounts of raw materials will be on hand at the time required and to plan for the casts of such materials and part, it is essential that the tactical short-term profit plan includes (1) detailed budget specifying quantity and cost of material required and (2) A related budget of material and parts purchased. This planning raw material usually requires the following four sub-budgets.

A Material and Parts Budget

This budget specifies the planned quantities of each raw material and parts required for planned production. It should specify quantities of each raw material and parts by time, product and responsibility center.

Thus, material and parts budget = planned production \times usage rate.

B Cost of materials and parts used budget

This budget specifies the planned cost of the materials and parts that will be used in the productive process. The material and purchasing budget and its sub budget should be

designed in such a way that the related activities and cost will be budgeted in terms of responsibility center, interim time periods, type of raw materials and parts and type of finished product.

"The primary considerations in setting inventory policies for materials and parts are as follows"(Welsch, et al., 2000:177).

- Timing and quantity of manufacturing needs.
- Economics in purchasing through quantity discounts.
- Availability of materials and parts.
- Lead time (order and delivery).
- Perish ability of materials and parts.
- Storage facilities needed.
- Capital requirements to finance inventory.
- Cost of storage.
- Expected change in the cost of materials and parts.
- Protection against shortages.
- Risk involved in inventories.
- Opportunity cost (inadequate inventory)

In developing the policy with respect to purchases and, the basic two questions should be answered. The first is how to purchases at a time is determined by well-known approach called economic order quantity (EOQ). In EOQ the ordering cost and carrying cost of the inventory will be Minimum. EOQ can be calculated by using the following formula.

a) How much to purchases at time.

$$EOQ = \sqrt{\frac{2 A O}{C}}$$

Where,

EOQ = Economic order quantity (units)

A= Annual used quantity (units)

O= Cost of order (average annual cost)

C= Annual carrying cost/ units in inventory for one year.

b) When to purchases

The time when a purchase is made called the "Reorder point". This model is used to calculate the timing for purchases. This is

Re-order point level [ROL] =Replacement stock + safety stock

Or

Re-order point level [ROL] =Maximum consumption \times Maximum Lead time

2.2.3.4 Direct Labor Cost Budget or Plan

A. Meaning

Direct labor budget is the pre-determination of planned direct labor hours and labor cost. After preparing the production budget, the direct labors hours is calculated by multiplying the units to be produced and estimated labor hours for each product. After finding total labor hours required cost is calculated by multiplying the labors hours and wages rate.

"Planning and controlling labor costs involve major and complex area (i) Manpower (personnel) needs .(ii) Recruitment (iii) Training (iv) Job description and Evaluation (v) Performance evaluation (vi) Union negotiations and (vii) wage and salary administrations" (Kishore, 2008: 282).

Comprehensive profit planning and control or Managerial Budgeting program should incorporate appropriate techniques and approaches applicable to each problem. Careful planning and realistic control of long term and short-term labor costs will be beneficial for both the company and its employee's labor costs will be beneficial for both the company and its expenditures.

Labor costs in the broad sense, are composed of all expenditures of those employees by the firm, top executive, middle management personnel, staff officers, supervisors, foremen, skilled workers and unskilled workers. It is necessary to consider separately the different types of labor cost. Such labor cost is generally classified as two ways. They are direct labor and indirect labor. Some companies prepare a labor budget that includes both direct and indirect labor budget.

B. Approaches used in Direct Labor Cost

The approach used to develop the direct labor budget depends primarily on the

- Method of wage payment
- Type of production process involved
- Availability of standard labor times
- Adequacy on the cost accounting records relating to direct labor costs.

C. Developing the Direct Labor Budget

Basically there are three approaches to the development of direct labor budget. These are:

- I.** Estimate the standard direct labor hours required for each unit for each products and department. Then
Estimate the average wage rate by department cost center or operation = planned production unit usage hour = required hour for production.
- II.** Then calculate labor cost multiplying the standard hour by hourly wage rate by department, cost center or operation $Q = \text{required hour for production wages rate}$.
- III.** Develop personnel tables by enumerating personnel requirements (number and cost) for direct labor in responsibility center

Direct labor budget depends on direct labor hour (**i.e. Total hour/ Hour worked**). So an important function of industrial engineers is to develop standard labor times for various operations and products. In some producing departments, reliable labor time standard can be developed. In some cases, it is impractical to estimate direct labor time except in terms of average based on experience.

D.Four Sources or Approaches commonly used in Planning Standard Labor Times are as follows:

- I. Time and Motion studies:** The individual engineers analyze about the fastest, slowest or average employee that should be used. Time and motion studies can provide reliable information about the labor time needed to perform each specific operation or production. When supervised by competent industrial engineers, time and motion studies generally represent the best approach to the planning of standard labor time.
- II. Standard Cost:** With the help of standard cost accounting system, we can provide standard time taken for the production or operation.
- III. Direct Estimate by Supervisors:** The supervisors of production department can provide standard direct labor hour by his judgment, recent and past performance of the department, assistance from the next level of management and technical staff personnel.
- IV. Statistical Study:** Under this approach, the historical ratio of direct hours to some measure of physical output is computed and then adjusted for planned change in the responsibility center. The accuracy of this method depends on the reliability of the cost records and uniformity of the production process from period to period.

2.2.3.5 Overhead Budget or Plan

A. Introduction

To accomplish planning control objectives of the organization, overhead budget also plays a significant role. It is important for every organization to classify expenses by responsibility, designed controllable or non-controllable and estimated with respect to their cost behavior pattern.

"Mangers should view expenses planning and control as necessary to maintain reasonable expenses levels to support the objectives and planned programs of the enterprise" (Kishore, 2008: 302).

Expenses planning should not focus on decreasing expenses, but rather on better utilization of limited resources. Viewed in this light, expenses planning and control should focus on the relationship between expenditures and benefits derived from those expenditures. The desired benefits should be viewed as goals, and sufficient resources must be planned to support the operating activities essential for their accomplishment.

The planning and controlling the three broad categories of expenses are

- I. Factory or manufacturing overhead.
- II. Selling and distribution overhead, and
- III. General administrative expenses.

The knowledge of cost behavior which is essential in cost planning and control is the response of a cost to different volume of output. There are three kinds of expenses which are viewed to output as follows:

- 1) **Fixed Expenses:** The expenses, which are constant in total form within relevant range and given, set at condition. For example, salaries, property taxes, insurance, depreciation etc.
- 2) **Variable Expenses:** The expenses which are changed in direct changes with output or volume or work done. For example, direct material, direct labor etc.
- 3) **Semi-Variable Expenses:** The expenses which are neither fixed nor variable and possess some features of both are semi-variable expenses. It changes in same-direction but not in proportion of output changes.

B. Factory or Manufacturing Overhead Budget

"Manufacturing overhead is that part of total production cost which is not directly identifiable with specific predictor jobs. Manufacturing overhead consists of (i) indirect expenses (ii) indirect labor and (iii) all other miscellaneous factory expenses, such as taxes, insurance, depreciation, suppliers, utilities and repairs. Manufacturing overhead includes many dissimilar expenses. Therefore, it causes problems in the allocation of

these costs to productions. This is the total of indirect material cost, indirect wages and indirect expenses of the factory" (Kishore, 2008: 312).

While developing the manufacturing overhead budget, the following steps should be taken:

- i) Compute the planned departmental output or activity by translating the requirements specified in the production plan into output or activity in each department.
- ii) Plan departmental overhead expenses.
- iii) Allocate the planned departmental expenses to the producing departments.
- iv) Allocate the producing department expenses to the products.

From the above steps, per unit overhead rate for each product could be computed add by adding the direct material cost and direct labor cost for each product, we are in position to compute the cost of goods manufactured.

Manufacturing overhead involves the following two problems:

- i. Control of manufacturing or factory overhead.
- ii. Allocation of manufacturing or factory overhead to products manufactured.

C. Selling and distribution expenses (Overhead) Budget.

“Selling and distribution expenses include all costs related to selling, distribution and delivery of products to customers. In many companies, this cost is a significant percentage of total expenses. Careful planning of such expenses affects the profit potential of the firm” (Kishore, 2008: 313).

The two primary aspects of planning distribution expenses are as follows:

- Planning and coordination
- Control of distribution expenses.

Fundamentally, the top marketing executive has the direct responsibility for planning the optimum economic balance (i) The sales budget, (ii) The advertising budget, and (iii) The distribution expenses budget. Therefore profit planning and control views sales,

advertising and distribution expenses as one basic problem rather than as three separate problems. All these expenses must be planned by responsibility center.

D. Administrative Expenses Budget

Expenses other than manufacturing and distribution are included in administrative expenses. These expenses are incurred in the responsibility center that provide supervision and service to all function of the enterprise, rather than in the performance of one function. Because of a large portion of administrative expenses are fixed rather than variable which are beyond controlled. Beside, from certain top management decisions, it is common to find administrative expenses "Top Heavy" when measured by the volume of business done. The administrative expenses center, after preparation by the respective managers, should be subject to approval by higher management in the same manner was discussed for all other budgets.

It is advisable to base budgeted administrative expenses on specific plan and programs. Past experience, adjusted for anticipated changes in management policy and general economic condition is helpful. Because most administrative expenses are fixed, an analysis of the historical record will often provide a sound basis for budgeting them.

2.2.3.6 Capital Expenditure Budget

Capital expenditures are investments because they are required the commitment of recourses today to receive higher economic benefits in the future. Capital expenditures become expenses as their related goods and services are being used to earn higher future revenues or to achieve future cost saving.

A Introduction

"A capital expenditure is the use of funds to obtain operational assets that will (a) help to earn future revenues or (b) reduce future cost" (Kishore, 2008: 322).

Capital expenditures budget is the firm's formal plan for the expenditure of money to purchase fixed assets. It is an internal corporate document that lists the allocated investment projects for a given focal period. Capital budgeting may be decided as the

decision making process by which firm evaluates the purchase of major fixed assets including building, machine and equipment. "It is a part of the firm's formal planning process for the acquisition and investment of capital". Capital projects are those that are expected to generate returns for more than one year. Capital budgeting refers to the process of planning capital projects, raising fund and efficiently allocating resources to those capital projects. Capital budgeting involves the generation of investment proposals: the estimate of cash flows for the proposals, the evaluation of cash flows; the selection of projects based upon an acceptance criterion, and finally, the continual revaluation of investment projects after their acceptance.

Thus, it is clear that capital budgeting is the process of determining capital investment, it is developed by responsibility center and time periods.

B Capital Expenditure Budget Process

"The management should be design a systematic process to develop the long-term and short-term capital expenditure budget because of the importance of sound capital expenditure decisions"(Kishore, 2008: 323).

The primary phase of a yearly budget process for planning and controlling capital expenditure are summarized below:

Phase Component (activity)

- Identify and generate capital addition projects and other needs, this activity should be continuous in most cases.
- Develop and capital additions proposal, collection of relevant data about each proposal, including any related alternatives.
- Analyze and evaluate all capital additions, proposals, and alternatives. Emphasis should be given to the validity of the underlying financial and operational data.
- Make capital expenditure decisions to accept the best alternative and assignment of project designation to select- alternatives.
- Develop the capital expenditure budget.

- Strategic plan- Re-plan and extend the long-term plan by dropping the past year and adding one year in to the future,
- Tactical plan- Develop a detailed annual capital expenditure budget by responsibility center and by time, that is consistent with the comprehensive profit plan.
- Establish control of capital expenditure during the budget year by using periodic and special performance report by responsibility centers.
- Conduct post completion audits and follow-up evaluations of the actual result from capital from expenditure in periods after completion.

C Capital Expenditure Decisions

The conical capital expenditure decisions are the choices of management from the competing capital expenditures alternatives (e.g. projects). Such decisions must focus on two over riding problems.

- Investment decisions selecting the best alternatives based on their economic worth to the company-called investment worth.
- Financing decision-determining the amounts and sources of funds needed to pay for the selected alternatives. This cash constraint may necessarily limit the projects and proposals that can be initiated.

D Methods of Measuring the Economic value of a Capital Expenditure: Numerous method of measuring the economic value, also called investment worth of an investment, is developed. The most widely used methods for this purpose are:

1. Discounted Cash Flow (DCP) Method.
2. Short cut and simple method.

The methods are as follows:

1. Discounted Cash Flow Method

Under discounted cash flow method, there are two types of method which are as follow:

a. Net Present value (NPV)

This method compares the present value of the cash inflows with the present value of the initial net cash cost of capital expenditure project. The amount difference between these two present values called net present value. The net cash inflows are discounted to present value by using a target or minimum rate of return. The Formula to calculate NPV is:

$$\text{NPV} = \sum_{t=1}^n \frac{C_t}{(1+r)^t} - C_0$$

Where,

NPV = Net Present Value

Σ = Sum of different year's transactions

Ct = Cash flow at the year end of year

R=Cost of capital or target rate of return

t =No. of years

C₀=Initial cash (investment)

b. Internal rate of return (IRR)

The IRR is the rate that will discount all the future net cash inflows so that their discounted sum will exactly equal to initial outflows of the investment project. The formula to calculate IRR is:

$$\text{IRR} = \frac{\text{Lr} + \text{NPV at Lr}}{\text{NPV at Lr} - \text{NPV at Hr}} \times (\text{Hr} - \text{Lr})$$

2 Shortcut and Simple Methods

This method does not consider the time value of money. There are mainly two methods of simple method, which are as follows:

- a. Pay Back Period (PBP):** This method computes the payback period, which is number of years that it takes to recoup cash investment form the annual net cash inflow from the investment.

The formula is

$$\text{PBP in years} = \frac{\text{Cost of Project / Investment}}{\text{Annual Cash Inflows}}$$

- b. Accounting Rate of Return on Average Rate of Return (ARR):** This method represents the ratio of the average annual profits to the investment in projects.

The formula is

$$\text{ARR} = \frac{\text{Average Cash Flow}}{\text{Average Investment}} \times 100$$

From the above, after analyzing the measuring capital investment, the decision criteria can be summarized as follows:

Methods

NPV		Higher the NPV
IRR		Higher the IRR or
IRR	>	Cost of Capital (k)
PBP		Lower the PBP
ARR		Higher the ARR

2.2.3.7 Planning and Controlling Cash Flows

A. Cash Budget

A comprehensive profit planning and control or managerial budgeting program establishes the foundation for realistic cash budget. To plan, control and safeguard the cash assets of the enterprise is one of the important responsibilities of the management. The planning and control of the cash inflows and cash outflows is important and cash budget is an effective way for this. Cash budgeting not plans and controls the cash inflows and outflows but also assess cash needs and effectively use excess cash. The cash plan or budget is prepared from the previously completed budgets such as the sales, materials, and labor, overhead and capital expenditure budgets.

A cash budget shows the planned cash inflows, outflows and ending position by interim periods for a specific time span. Most companies should develop both long term and short term plans about their cash flows. The short-term cash budget is including in the annual profit plan. A cash budget basically includes two parts (i) the planned cash receipt (inflows), (ii) the planned cash disbursement (outflows). Planning cash inflows and outflow gives the planned beginning and ending cash position for the budget period. Planning the cash inflows and outflows will include (i) The need for financing probable cash deficits or (ii) The need for investment planning to put excess cash to profitable use. The cash budget is directly related to other plans, such as sales plan, accounts receivable and the expenses budgets and the capital expenditures budgets.

1. Give the probable cash position at the end of each period as a result of planned operations.
2. Identify cash excesses or shortages by time periods.
3. Establish the need for financing and/or the availability of idle cash for investment.
4. Coordinate cash with (a) total working capital (b) sales revenue (c) expenses (d) investment (e) liabilities
5. Establish a sound basis for continuous monitoring of the cash position.

B. Techniques for Improving Cash Flow

"Planning the cash flow of company should include consideration of how to improve cash flow. Improving cash flow basically involves increasing the amount of available cash on a day-to-day basis. To accomplish this objective, the management should focus on (a) the cash collection process to speed up cash collection (b) the cash payment process to slow-down the payment of cash and (c) the investment policies for the investment of idle cash balances to maximize interest earnings" (Singh&Goyal, 1992: 188)

Some of the ways often used to improve the efficiency of the cash collection process are as follows:

- Review the lag from the data of sales of goods and services on credit to the mailing of (a) invoices (b) The first billing.
- If cash discounts are given to customers for early payment, review their effect on early cash collection and whether the discount is too high or too low.
- Review the credit granting process to determine whether bad credit risks are being screened out.
- Consider ways to decrease the time lag between the date that customers pay by check and the date that the cash is available for use in the company's bank account.

Some of the ways often used to improve the efficiency of the cash payment process are as follows:

- Make all payments on the latest non-penalty day. Do not pay early.
- Make all payments by check, preferably on Friday to maximize float in favor of the company.
- Take all cash discounts allowed for early payment
- Establish a policy of no cash advance to both outsiders and employees.
- Establish policies, and a payment process to minimize the possibility of fraudulent payments by company's employees.

A company should develop a specific policy about the investment of temporarily idle cash. The policy should be specific about such issues as (a) types and mix of acceptable

securities (b) monthly reporting and monitoring of the portfolio and (c) safeguarding and disposal of temporary investments.

2.3 Review of Various Plans of NTC

In order to make a research on the subject some other literature should also reviewed. Main purpose of literature review is to find out the works done in the subject on areas of research. Some possible studies and conceptual perspectives available in this respect have been reviewed. For the different book reports, journals and research study published by various institutions and some thesis submitted by master's level students have been reviewed.

2.3.1 Telecommunication Development (Ninth Plan)

This five-year plan has covered the year 1997-2002. In 9th plan Nepal Government has given a vital emphasis to the telecommunication sector. The following objective has been formulated related with telecommunication sector.

- Develop the information and communication sector as an infrastructure for the development by expanding an information & technology.
- Involve the private parties in the sector of information and communication. By which the developments of information technology will be effective.
- Make excess the telecommunication services in remote and rural by appropriate technology.
- Optimum utilization of available resources will be focused in period of ninth plan.

To fulfill the above objectives, the policy level formulates following policies in ninth plan.

- Make excess the participation of private sector in the monopoly situation of corporation.
- Adopt the appropriate and best strategies for mobilization of the available capital, resources and other available means of the corporation.
- Develop as the international telecommunication transit by coordinating with various countries.

Some physical targets of ninth plan are as follows:

Capacity of 400,000 lines will be installed. Among this, 300,000 will be installed through Nepal Telecommunication Corporation and 100,000 will be installed through participation of private sector.

Physical target for the ninth plan in telecommunication sector:

Development regions	Telephone lines
Eastern	38,500
Central	202,900
Western	31,300
Mid-Western	9,600
Far-Western	8,500
Total	290,800

(Sources: Annual Report of NTC)

2.3.2 Telecommunication Development (Eleventh Plan)

This five-year plan has covered the year 2007-2012. In 11th plan NG has given a vital emphasis to the telecommunication sector. Nepal government has targeted easily access of telecommunication facility by all Nepali Citizen. So NTC has formulated three years planning to achievement of objectives of 11th years planning. The following objective has been formulated related with telecommunication sector.

- a. Optimum utilization of available resources will be focused in period of eleventh plan.
- b. Make excess the telecommunication services in remote and rural by appropriate technology.
 - Develop the information and communication sector as an infrastructure for the development by expanding information & technology sector.
 - Involve the private parties in the sector of information and communication. By which the developments of information technology will effective.

To fulfill the above objectives, the policy level formulates following policies in eleventh plan.

- a. Develop as the international telecommunication transit by coordinating with various countries.
- b. Make excess the participation of private sector in the monopoly situation of corporation.

Adopt the appropriate and best strategies for mobilization of the available capital resources and other available means of the corporation.

Some physical targets of eleventh plan are as follows:

Capacity of 4,407,924, 5,790,217 & 7,946,164 lines during the fiscal year 2008/09, 2009/10 & 2010/11 respectively has been installed.

Physical target for the eleventh plan in telecommunication sector

Line Capacity Addition in 11th Plan	Fiscal Year 2009/10	Fiscal Year 2010/11	Fiscal Year 2011/12
PSTN	562,102	583,542	603,291
GSM	3,009,962	3,960,290	5,121,518
CDMA	721,318	920,258	1,019,136
ADSL	15,561	45,435	68,343
Internet	98,981	280,692	1,133,876
Total Lines Addition	4,407,924	5,790,217	7,946,164
% of Total Line Addition	-	31.36%	37.20%

(Sources: Annual Report 2069/70)

The above table presents the actual sales in unit from the fiscal year 2009/10 to 2011/12. The above table shows the sales unit increase/decrease over previous year assuming F/Y 2009/10 as base year. The table presents that the sales in unit is increasing trend. The table shows that the actual sales unit increased over previous year by 31.36%, and

37.20% for F/Y 2010/11 and 2011/12 respectively. It shows that there is consistent increment in 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.

The overall current status (as of February, 2014) of Nepal Telecom could be viewed in bird's eye view in the following table.

Current Status of Nepal Telecom (As of February, 2014)

Total Working Manpower	7,185
Manpower per Thousand Telephone Lines	0.68
Total Telephone Distribution (PSTN/GSM/CDMA)	8,503,895
Overall Telephone Penetration	31.94
Telephone Coverage	All 58 Municipalities & 3,915 VDCs
Telephone Market Share in Nepal	45%
International Telephone Circuits in Operation	5,672
Total GSM Mobile Subscribers	6,917,529
NAMASTE Prepaid Mobile Subscribers	6,681,686
NTC Postpaid Mobile Subscribers	235,843
Penetration of GSM Mobile Phones	25.99
Total CDMA Subscribers	9 51,419
CDMA Fixed C-Phone Prepaid Subscribers	98,405
CDMA Fixed C-Phone Postpaid Subscribers	19,677
CDMA Mobile SkyPhone Prepaid Subscribers	808,013
CDMA Mobile SkyPhone Postpaid Subscribers	25,354

Penetration of CDMA Mobile Phones	3.57
Total PSTN Landline Phone Subscribers	6 33,825
Penetration of PSTN Phones	2.38
Total Internet Subscribers	2,796,144
GSM Internet Subscribers	2,546,523
CDMA Internet Subscribers	135,673
PSTN/ISDN Dialup Internet Subscribers	5,929
ADSL Subscribers	101,808
WiMAX Subscribers	197

Sources: Annual Report 2069/70

**** Data as of Poush 2070, MIS ****

2.4 Research Gap

All above-mentioned studies are about profit planning system of Nepal Telecom. Their finding and recommendation are almost same. All of them have pointed out that there is no proper planning and control system in NTC. This research is emphasizing the budgets roll in the comprehensive profit planning system which incorporates the revenue as well as expenses planning of NTC.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

The research design of the study is analytical as well as descriptive approach. The present study consists of analytical as well as descriptive design. The study was based on secondary data only. This study is an examination and evaluation of revenue planning of NTC Ltd. Revenue Planning is closely related with the various functional budgets. The information and data are presented in an analytical pattern. Personal of the enterprise and the theoretical perception are explained in words wherever necessary (Wolf, et al., 2002).

3.2 Population and Sample

All the corporate bodies are the population of this study. The current study is only related with the revenue planning and budgeting of Nepal Telecom Company Limited as Sample Company. The present study is undertaken for a period of past five years from the fiscal year 2008/09 to 2012/13.

3.3 Sources of Data

As for effective research work, data play very important role. The research data for this research work were taken from its origin. For this research work all the quantitative data were collected directly from NTC. Thus, the necessary data were collected from secondary source.

Some qualitative data were collected from the official of NTC. Some descriptive data were collected from staffs of NTC and from annual reports.

3.4 Data Collection Technique

There are different data collection procedures for the research work. For this study different techniques and procedures were adopted to collect necessary and authentic data and information. Since the study is related with budgeting practice most of data were collected from the published functional budget and financial statement. They are collected directly from account department, planning department and functional department of NTC.

3.5 Data Analysis Tools

Data collected from various sources were managed, analyzed and presented in proper table and formats (Joshi, P.R., 2001). Such table and formats were interpreted and explained wherever necessary.

3.5.1 Statistical and Mathematical Tools

To analyze the collected data by using following financial and statistical tools;

- Percentile Increment
- Arithmetic Mean
- Standard Deviation
- Coefficient of Correlation
- Coefficient of Regression
- Standard Deviation
- Graphs Diagrams

3.5.1.1 Percentile Increment

This statistical tool gives the percentage change of previous year to current year. This tool helps to find out the increment in the study variables. Simply, the word percentage means per hundred. In other word, the fraction with 100 as its denominator is known as percentage and numerator of this fraction is known as rate of percent.

3.5.1.2 Arithmetic Mean Average

The central values that represent the characteristics of the whole distribution or the values around which all items of the distribution tend to concentrate are called average. Arithmetic mean or arithmetic average is one of the important statistical measures of averages. The arithmetic mean of a given set of observation is their sum divided by the number of observation.

3.5.1.3 Coefficient of Correlation

Correlation analysis is a statistical tool. It is used to find the relationship between variables. If two quantities vary in such a way that movement in one are accompanied by

movements in the other these quantities are correlated. It shows the effect on other variables due to the change in one variable. The degree of relationship between the variables under consideration is measured through the correlation analysis. Thus correlation is statistical device, which helps us in analysis the co-variation of two or more variables. Karl's Pearson's Coefficient of correlation is widely used in practice. The Pearson's coefficient of correlation is widely used in practice. The Person's Coefficient of correlation is denoted by the symbol "r".

The formula for computing person's "r" is:

$$r = \frac{\sum Xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,

r = the correlation coefficient

x = X - \bar{X}

y = Y - \bar{Y}

X = Independent variables

Y = Dependent variables

Following general rules are applied to interpret the coefficient of correlation: when r = +1, It means there is a perfect positive relationship between the variables. When r = - 1, It means there is a perfect negative relationship between the variables. When r = 0, It means that there is a no relationship between the variables i.e. the variable are uncorrelated.

3.5.1.4 Regression Analysis

Regression is the statistical tool which is used to determine the statistical relationship between two or more variables and to make estimation of one variable on the basis other variables in other words regression is that statistical tool with the help of which the unknown value of one variable can be estimated on the basis of known value of the other variable.

3.5.1.5 Standard Deviation (σ)

The standard deviation is the absolute measure of dispersion. It is defined as the positive square root of the mean of the square of the deviation taken from the arithmetic mean. The greater the amount of dispersion or variability; the greater the standard deviation, the greater will be the magnitude of the deviation of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of the series and a large standard deviation means just the opposite.

3.5.2 Financial Tools

Ratio Analysis and CVP analysis has been used in this study as financial analytical tools. Ratio analysis is main focus as financial tools throughout the study as “Ratio analysis is such powerful tool of financial analysis that thought the help of it economic and financial position of business unit can fully x-rayed” (Kothari, 1990:187).

CHAPTER - IV

PRESENTATION AND ANALYSIS OF DATA

This chapter is devoted to the presentation, analysis, interpretation and scoring the empirical finding out of the study through definite course of research methodology. To achieve the stated objective of the study researcher has tabulated the available applicable stated in the research methodology.

4.1 Introduction

The main purpose of this research study is to examine the revenue planning and budgeting of Nepal Telecom Limited. Efficient and optimum revenue planning and budgeting depends upon the objectives of the organization. Plan should achieve the goals of the organization. It embarks on forecasting the environment in which objectives must be achieved.

Revenue is an inherent part of the management process. Revenue planning helps the organization for the development and acceptance of objectives and goals and moving an organization efficiently to achieve the objectives and goals. Revenue planning and budgeting is an important technique of management, which can be used in private public as well as government organization. Each and every public enterprises or firm or government corporation is established with an objective of public service.

Nepal Telecom is partially government owned public sector entity, administrated by a government appointed Board of Directors (BOD). However, more autonomy has been offered to the entity from Baishak 1st, 2061 by the government as a part of deregulation and liberalization policy in telecommunication sector. Now, Nepal Telecom has functioning under the Company Act, 2063 utilizing its full autonomy.

Revenue planning in Nepal Telecom is most important for the best utilization of its exchange capacity and effective accomplishment of the goals and objectives in sales planning, production planning, overhead expenses, capital budgeting, cash flow and manpower planning. Thus, in this part, effort has been made to analyze how far the target

and objective has been achieved. Various functional budget, statistical procedures are analyzed and examined in the context of Nepal Telecom.

To accomplish the above mentioned objectives of the study, this chapter will analyze the various aspect of revenue planning, cash flow from operating, financing and investing activities, their achievement, their related variance in units and revenue separately of the company. The study also presents and analyzes the overall economic and financial trend and estimate the future possible trend of Nepal Telecom.

4.2 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 cannot be sure of accuracy and practicability of other elements of profit plan.

4.2.1 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. Labor, 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.

Revenue plan is prepared on the basis of sales forecast. NTC has practice of preparing sales forecast and the demand for long term which is known as long term forecast. NTC prepares revenue budget for every fiscal year and it also forecast the strategic plan for coming national plan. NTC prepares its revenue budget by line capacity and service. NTC has no any problem in selling its line but it has facing problem in 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 by co-ordination among revenue section, billing section and business management section. Like other organizations, it does not have distribution channels. Consumer contacts themselves to get telephone services. There is no strong competition in the market except Ncell and UTL.

Sales Budget is the primary step in developing the overall budget procedure. It is the primary source of cash. All other functional budgets are prepared on the basis of sales budget. It is an estimation of sales for a certain period of time.

Sales plan is prepared on the basis of sales forecast. A sales forecast has to be translated in the sales plan and various factors have to be taken into consideration. The sales plan includes sales forecast, marketing plan, advertising and expenses budget and selling expenses budget. The overall responsibility of preparing sales budget is upon the sales manager, although, chief executive should also involve in each activity.

NTC has a long experience of preparing sales budget, which is known as long term load forecast. Sales budget is prepared by NTC according to the nature of consumers; Consumers are categorized like domestic, commercial, non-commercial, Communications center. Similarly customers are also categorized like Local, STD, ISD,

Telephones user and mobile users. The previous sales performance and their respective budgets are presented to know about sales trend of past and to forecast the future sales trend of NTC.

The Table 4.1 presents the sales budget and actual sales achievement in unit and in Rs. from the fiscal year 2008/09 to 2012/13.

Table: 4.1
Budgeted Sales and Achievement

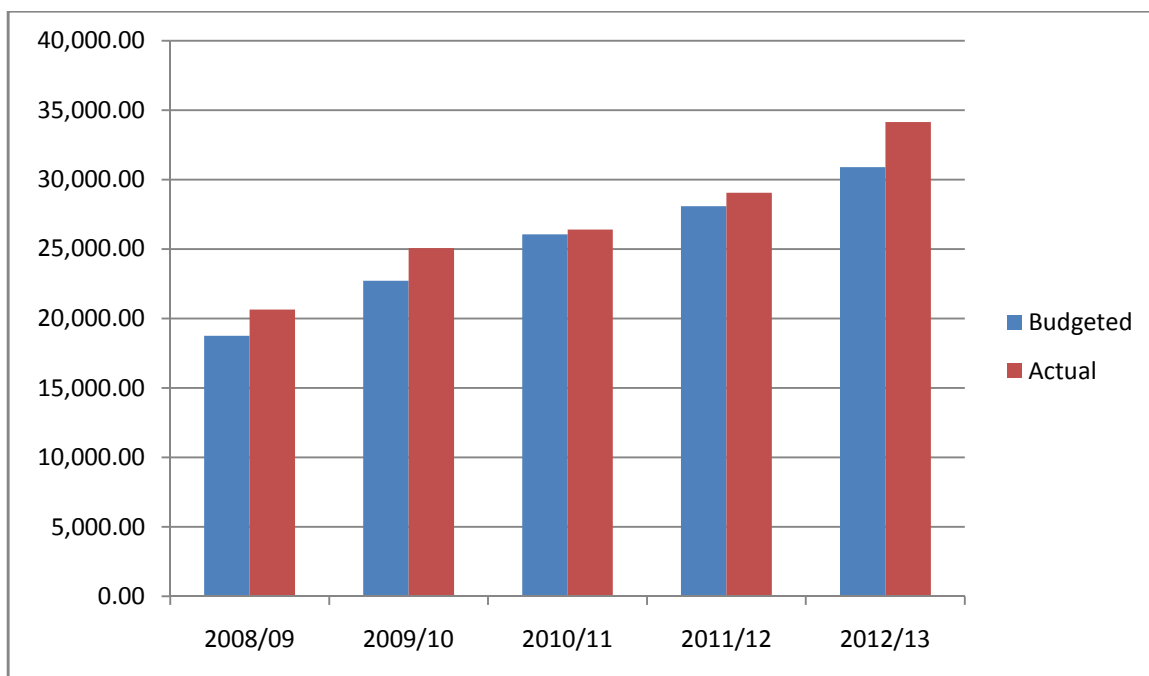
(NRS. Millions)

Fiscal Year	Budgeted Sales(NRs.)	Actual Sales (NRs.)	Achievement (%)
2008/09	18,745.34	20,646.69	110.14
2009/10	22,711.36	25,058.30	110.33
2010/11	26,060.63	26,409.50	101.34
2011/12	28,089.67	29,055.50	103.45
2012/13	30,898.64	34,140.00	110.50

(Sources: Annual Report of NTC)

Figure: 4.1
Budgeted Sales and Actual Sales Revenue of NTC

(NRs in Millions)



The above table & figure show the budgeted sales and actual sales of Nepal Telecom Company Limited for the last five fiscal years.

The analysis of above table 4.1 shows the highly satisfactory sales performance of Nepal Telecom. In unit basis, sales achievement is 107.15 % in average which is at most satisfactory.

In the F/Y 2008/09 the budgeted sales revenue was Rs. 18,745.34 million and gradually increased up to the F/Y 2012/13 which was Rs.30, 889.64 million. Annual budgeted sales revenue is increasing from F/Y 2008/09 to F/Y 2012/13. On the other hand, the actual sales revenue is in increasing trend during the research period. The actual sales revenue of NTC in F/Y 2008/09 was Rs.20, 646.69 million which reached to Rs. 34,140.00 millions in F/Y 2012/13. The actual sales revenue is more than the targeted revenue in all fiscal year during the research period. By the analysis of table, 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 107.15% which is itself a good signal for the company.

The graphical presentation shows the incremental trends of the budgeted and actual sales during the study period.

Table: 4.2
Statistical Calculation

(NRs. Millions)

Particulars	Budgeted Sales (X)	Actual Sales (Y)
Mean	25,301.13	27,062.00
S.D.	4,295.45	4,512.15
C.V.	0.28032	0.23019
r	0.92	
6PE	0.07	

(Sources: Appendix no 1)

The above table shows that the mean of actual sales is greater than the budgeted sales i.e. Rs. 27,062.00 million and Rs.25, 301.13 million respectively. Similarly, standard deviation of actual sales (i.e. Rs. 4,512.15) is greater than the budgeted (i.e. Rs. 4,212.15). Moreover, this table also shows the value of C.V. 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 states that coefficient of variation of budgeted sales is 0.28032 which was greater than the C.V of actual sales is 0.23019. It indicates that budgeted sales are more variable than the actual sales during the study period.

Another statistical tool, Coefficient of Correlation was used to analyze the relationship between the budgeted sales and actual sales. There should be positive correlation between the budgeted sales and achievement. To find out the correlation between the budgeted figures and actual figures, Karl person coefficient of correlation was used and it is denoted by ('r'). After calculation the r, it can be examined whether there is positive correlation between the budgeted sales and actual sales or not. To calculate the value of r,

the budgeted sales were assumed as independent variables X and actual sales as dependent variables Y.

For this purpose, the calculated value of r is 0.92 (*refer appendix 1*). The value of r shows that there is highly positive correlation between the budgeted and actual sales.

After examining the relationship between standard and actual sales the significance of r can be examined and it can be tested with the help of probable error. The correlation coefficient (r) is greater than probable error of P.E. ($r = 0.07$ (*refer appendix 1*)). Thus, significant of ($r = 0.07 * 6 = 0.042$). There, it can be said that the value of r is significant or there is perfect positive correlation between the budgeted and actual sales.

A regression line also can be calculated to show the degree of relationship between the budgeted and actual sales and to estimate the possible actual sales for coming year with given planned sales for the year. It is assumed that an actual sale is dependent variable which is denoted by Y whereas budgeted sale is denoted by X. Then the regression line of actual sales on budgeted sales or Y on X as: $Y_c = 0.97X + 2,529.65$.

This regression equation shows that the actual sales is in increasing trend and 2,529.65 represents the increment in the value of dependent variables (Y) when the value of independent variables (X) changes by one unit. With the help of the regression equation it can be estimated that the expected sales achievement with given value of budgeted sales (X). The budgeted sales (X) for the FY 2012/13 would be 30,898.64 million in units' sales achievement will be as follows. The expected value of sales achievement (Y) $= 0.97 * 30,898.64 + 2,529.65 = 32,489.43$ million.

Time element is also an important factor for the study of trend of actual sales. Least square method and time series study can also be used to analyze the trend of actual sales and to estimate possible future sales for a given period of time. A straight line trend shows the relationship between actual sales and year to fit the straight lime trend. The time factors are considered as independent variables and actual sales is considered as dependent variables.

FY 2010/11 (Mid-Year) is assumed as base year therefore the value of X or mid time is zero where the value is negative before the base year and positive after the base year. So, regression equation as: $Y_c = 27,062.00 + 6,196.76 X$ (refer: appendix 1).

The trend line indicates the positive sales figure for future. If the sales trend of the previous year continue in the future then the sales will increase by 27,062.03 unit in million every year.

4.3 Analysis of Overhead Cost

NTC prepares the overhead budget in a combined way and which is named operating and maintenance expenditure budget. This budget includes (a) employment cost (b) bonus (c) incentive packages (d) depreciation (e) administrative expenses (f) loss/gain on foreign currency (g) royalty (h) loss on sale of telephone & other goods (i) license fee & deferred expenses etc.

Nepal Telecom Company Limited doesn't prepare the separate budget like manufacturing overhead, administrative overhead and selling and distribution overhead budget. It reveals that NTC doesn't have practice of preparing functional overhead budget. NTC aggregates all the expenditures and prepare the "Operation and Maintenance Expenditure Budget", that is why there is difficult to analyze its overhead budget separately.

The past trend of NTC of Operation and Maintenance Expenditure is as following;

Table: 4.3
Analysis of Overhead Cost

(NRS. Millions)

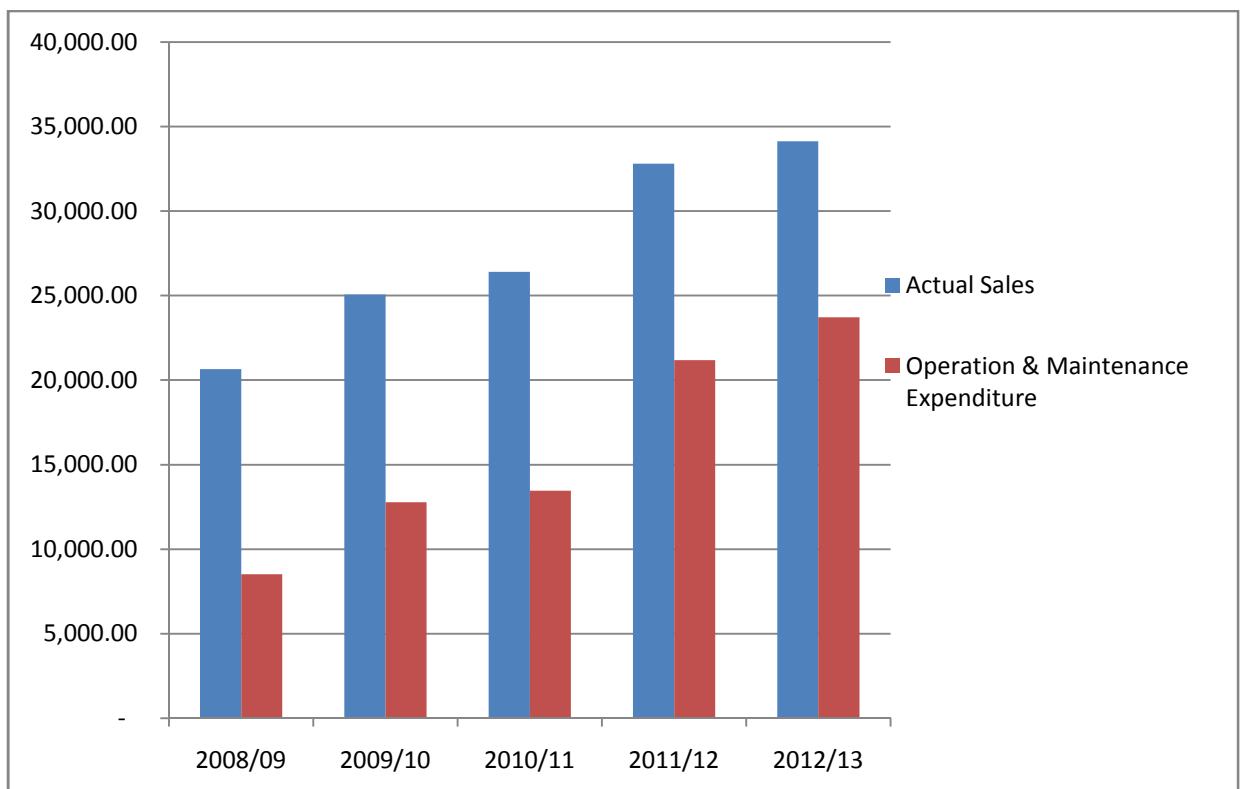
F/Y	Actual Sales (NRs.) [a]	Operation & Maintenance Expenditure (NRs.) [b]	Cost of Sales (%) [b/a * 100]	Percentage Change
2008/09	20,646.62	8,513.59	41.23%	-
2009/10	25,058.30	12,779.97	51.00%	9.77%
2010/11	26,409.49	13,459.52	50.96%	-0.04%
2011/12	32,807.52	21,174.63	64.54%	13.58%

2012/13	34,140.80	23,727.22	69.53%	4.99%
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(Source: Annual Report of NTC from 2008/09 to 2012/13)

The Table 4.5 can be presented in diagram as follows:

Figure: 4.2
Analysis of Overhead Cost



The above table and figure show that overhead expenditure trend from fiscal year 2008/09 to 2012/13 with respect to sales. The maximum operation and maintenance overhead is in 2012/13 NRS. 23,727.22 million which is 69.53% of total sales whereas the minimum is in 8,513.59 million which is 41.23% of total sales The total operation expenditure is increasing trend in line with sales figure.

4.4 Analysis Profit and Loss of NTC

Profit and Loss of any organization shows the operating result for any specific time period. This is the 'scoreboard' of the organizational performance. The main objectives of preparing profit and loss account are to see the operating position of an organization. Generally, in profit making organization, profit and loss account is prepared which shows profit or loss of the fiscal year. In non-profit making organizations, income and expenditure account is prepared which shows net surplus or deficit for any specific time period.

Nepal Telecom Company Limited is earning profit in each fiscal year since its incorporation. Below is the table which shows the profit Nepal Telecom Company Limited.

Table: 4.4
Analysis Profit and Loss

NRS in Millions

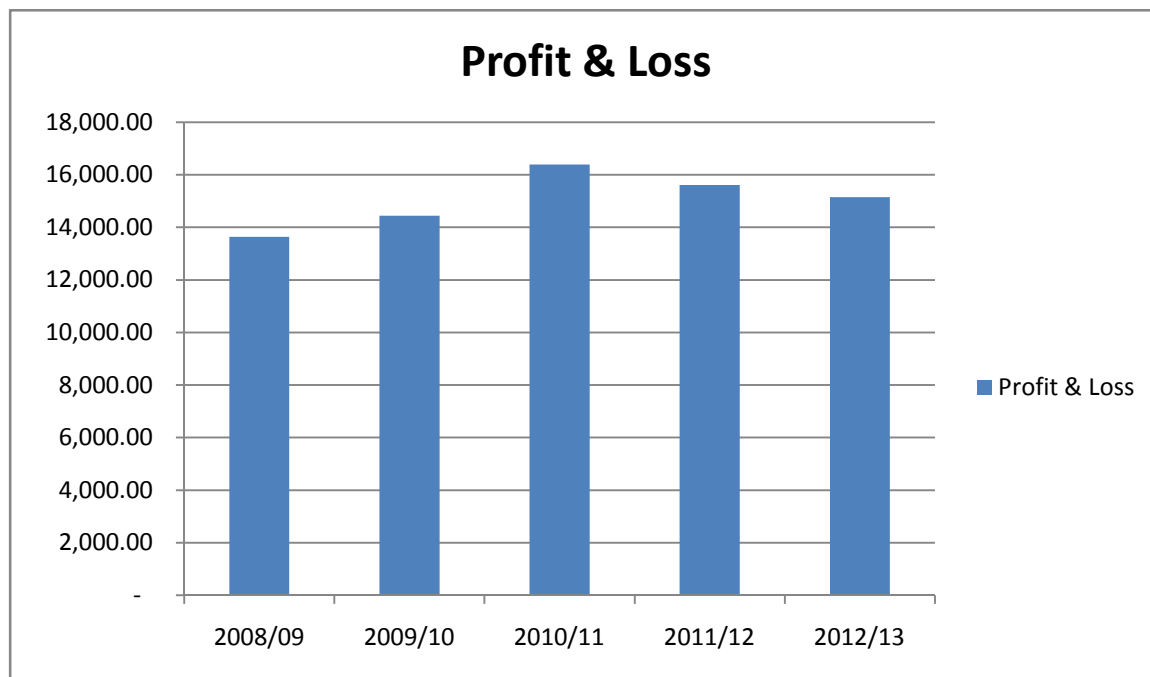
Fiscal Year	Profit	Percentage Change
2008/09	13,633.989	-
2009/10	14,441.095	-8.4%
2010/11	16,389.693	4.43%
2011/12	15,617.189	-14.46%
2012/13	15,153.032	-3.22%

(Source: Annual Reports, NTC)

The above Profit and Loss trend can be presented in diagrammatic form;

Figure: 4.3
Profit and Loss

(NRS in millions)



The above table and figure show the profit and loss of the company during the last five years. The maximum profit is at fiscal year 2008/09 and minimum profit is at fiscal year 2012/13 with respect to sales. The trend line shows that NTC has fluctuating profit position since 2008/09 to 2012/13.

4.4.1 Relationship between 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 moderntimes 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 F/Y 2008/09 to 2012/13.

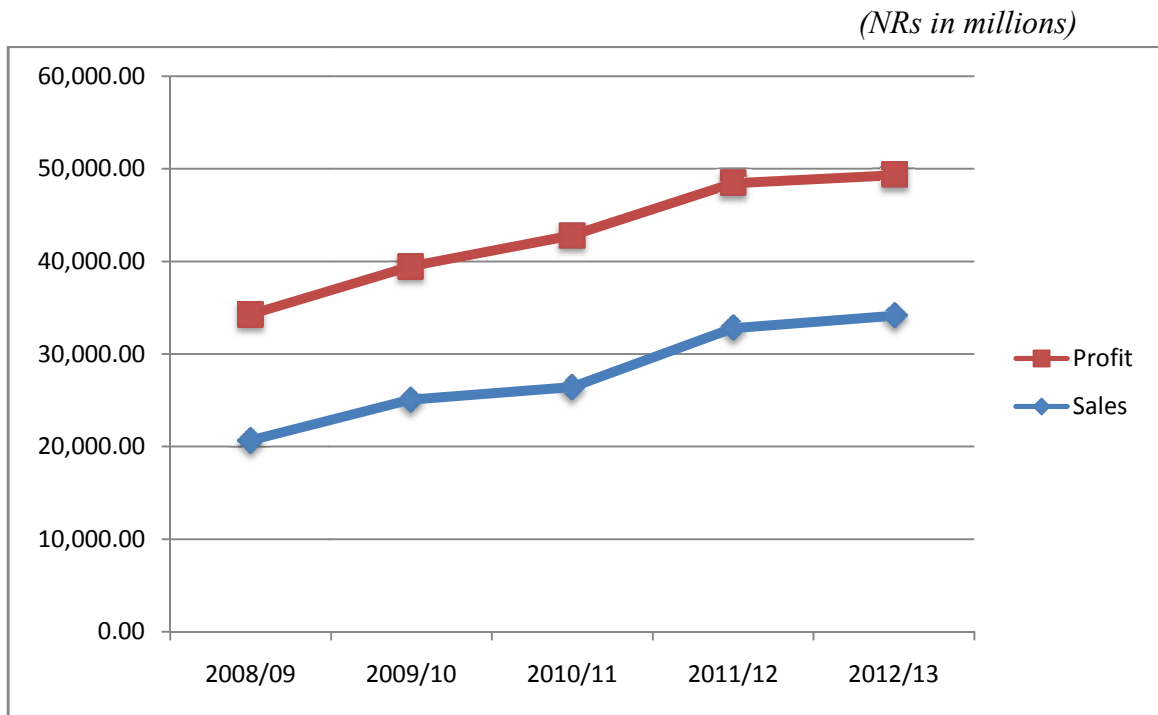
Table: 4.5
Relationship of Sales and Profit

(NRS in millions)

Fiscal Year	Sales	Increase over previous year (%)	Profit	Increase over previous year (%)	% of profit on Sales
2008/09	20,646.62	-	13,633.99	-	66.03%
2009/10	25,058.30	21.37%	14,441.10	5.92%	57.63%
2010/11	26,409.49	5.39%	16,389.69	13.49%	62.06%
2011/12	32,807.52	24.23%	15,617.19	-4.17%	47.60%
2012/13	34,140.80	4.06%	15,153.03	-2.97	44.38%

(Source: Annual Reports, NTC)

Figure: 4.4
Sales and Profit



The above table and figure show the revenue and profit & loss trend i.e. increase/decrease over previous year assuming F/Y 2008/09 as base year. The table presents that the total revenue and profit is in fluctuating trend. Also the increase/decrease ratio of percentage of total revenue and profit & loss is not same.

The above table 4.7 gives the account of Total Revenue and profit & loss trends of NTC from F/Y 2008/09 to 2012/13. It is clear that NTC has been generating unexpected 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 44 % which shows better performance of organization despite the fact that the NTC has been enjoying even competitive market in telecommunication sector.

The above line graph gives the clear picture of relationship between total revenue and profit & loss of NTC during the research period from 2008/09 to 2012/13. The total revenue is in increasing trends from F/Y 2008/09 to 2012/13. Profit was also in increasing trend between F/Y from F/Y 2008/09 to 2010/11 which slightly decreases in

F/Y 2011/12 to 2012/13. In conclusion, Total revenue & profit & loss trend both are in increasing trend & they are increasing in same direction.

4.5 Analysis of Account Receivable

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 F/Y 2008/09 to 2012/13. 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: 4.6
Analysis of Account Receivable

NRS in Millions

Fiscal Year	Account Receivable (a)	Sales Revenue (b)	Debtor Turnover ratio (DTR) (c = b/a)	Average Collection Period (ACP) (d= 365/c)	Percentage Change
2008/09	3,593	20,646.62	5.75	64	-
2009/10	4,295	25,058.30	5.83	63	-1%
2010/11	3,904	26,409.49	6.76	54	-9%
2011/12	4,339	32,807.52	7.56	48	-6%
2012/13	3,188	34,140.80	10.71	35	-13%

(Source: A year in Review, NTC FY 2012/13)

The above table shows the relationship between receivable and sales revenue from which the receivable turnover and average collection period can be analyzed.

Debtor turnover ratio indicates the number of items the debtors are turned over a year. The higher the value of debtor turnover the more efficient is the management of debtors or more liquid the debtors are, due to more fast collect money. Similarly, low debtor turnover ratio implies inefficient management of debtor or less liquid debtor. It is reliable measure of time of cash flow from sales. There is no rule of thumb which may be used as a norm to interpret ratio as it may be different from one to another company.

The term Debtor Collection Period indicates the average time taken to collect trade debts. In other words, a reducing period of time is an indicator of increasing efficiency. It enables the enterprise to compare the real collection period with the granted credit period.

The average collection period and debtors' turnover were 63 days and 5.75 times respectively of the FY 2008/09. Moreover, FY 2009/10 the average collection period decreased to 62 and debtors' turnover was increased to 5.83 times. The management was more efficient for the management of debtors. Also, FY 2010/11 the average collection

period decreased to 54 and debtors' turnover was increased to 6.76 times and so on. So there is effective receivable management.

Furthermore, FY 2012/13 the average collection period decreased to 34 and debtors' turnover was increased to 10.71 times. So it can be said that account receivable performance was increased in over the year.

4.6 Cost–Volume Profit Analysis

4.6.1 Identification of Cost Variability

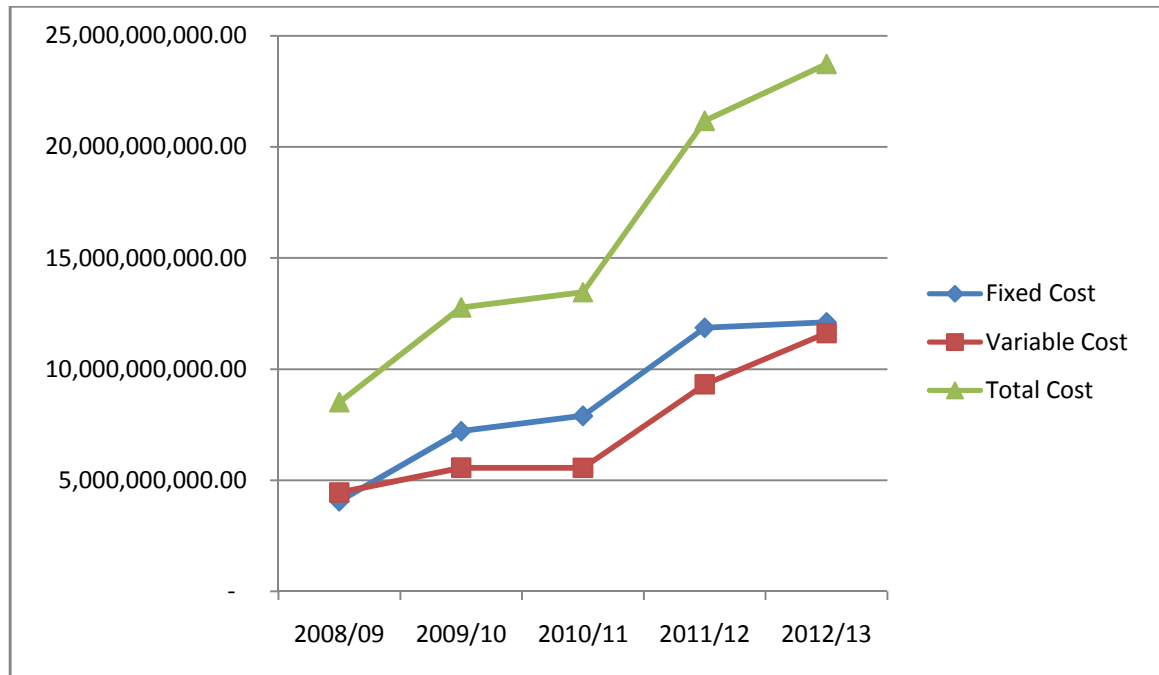
Identification of variability of cost is very important for profit planning. Generally cost behaves in two ways in relation to volume of output. First it changes proportionately with the change in volume of output it so, called variable cost. Second it does not change with the change in volume. That is fixed nature, so called fixed cost. Cost behavior gives answers to what happens in each expense when the output changes. Cost can be classified in three categories according to their behavior. They are fixed cost, variable cost and semi-variable cost. Fixed cost remains constant for the certain time for certain level of activity. Variable cost is fluctuating nature. Variable cost proportionately increase or decrease with the increase or decrease of output. There is direct relationship with the output. Semi-variable cost is neither variable nor fixed.

Classification of cost is very important for plan and control of cost. It helps to determine the desired level of output and desired profit. With the help of classification of cost, desired level of output for targets profit can be found out. But NTC has no any clear-out vision about classification of cost. The classification of cost in fixed and variable as under:

Table: 4.7
Analysis of Total Cost

			<i>Amount in NRS</i>
Year	Fixed Cost(a)	Variable Cost(b)	Total Cost[c=a+b]
2008/09	4,056,796,354.00	4,456,795,774.00	8,513,592,128.00
2009/10	7,209,000,274.00	5,570,972,553.00	12,779,972,827.00
2010/11	7,899,159,524.00	5,560,362,174.00	13,459,521,698.00
2011/12	11,858,808,710.00	9,315,822,484.00	21,174,631,194.00
2012/13	12,106,177,449.00	11,621,050,965.00	23,727,228,414.00

Figure: 4.5
Analysis of Total Cost



The above table and figure show the total cost of Nepal Telecom during the last five years. The maximum total cost incurred during the last five years of study is at fiscal year 2012/13 which is NRS 23,727 million and minimum total cost is at fiscal year 2008/09 which amounts to be NRS 8,513 million. The trend of Variable cost, fixed cost and total cost is increasing.

4.6.2 Cost–Volume Profit analysis of NTC is based on the following assumptions

- Selling price does not change as units of sales change.
- Variable cost ratio and fixed cost total remain constant
- Power inventory of any type is not considered
- The basic management policies about operation will not change materially in short run.
- In addition of sales revenue, other incomes and expenses (i.e. interest charge, income from other service and other incomes) are also considered for calculating break- even sales.

P.V. Ratio or Profit Volume Ratio/ C.M. Ratio

This ratio shows the proportion of contribution margin left to cover the fixed cost and profit per rupees of sales.

The P/V ratio is maximum in fiscal year 2010/11 i.e. 0.789 and minimum in fiscal year 2012/13 i.e. 0.660 (*refer: appendix 1*) and it shows that the proportion of contribution margin to each rupee of revenue. There is fluctuating trend of contribution margin during the period under study.

V/C ratio or Variable Cost Volume Ratio

This ratio shows the proportion of variable cost to each rupee of sales revenue.

V.C ratio is maximum in fiscal year 2012/13 i.e. 0.340 and is minimum in fiscal year 2010/11 i.e. 0.2.11 (*refer: appendix 1*) and it shows that the proportion of variable cost to each rupee of revenue. There is fluctuating trend of variable cost ratio during the period under study.

Break Even Point

With help of P/V ratio and V/C ratio the break even sales revenue can be calculated. The break even sale for current year 2012/13 is NRS. 18,353,425 thousands and actual sales is NRS 34,140,807 thousands whereas the break even sale for fiscal 2008/09 is NRS.

5,173,565 thousands and actual sale for the year is NRS 20,646,628 thousands (*refer: appendix 1*)

The above result shows that the break-even point is below the actual sales revenue. There is satisfactory position of NTC in term of cost volume profit analysis. The lower V/C ratio refers the organization is able to utilize its resources efficiently. Greater contribution signifies the efficiency of an organization to mobilize its resources.

The break-even point is that level of sales where the organization neither even profit nor incurs loss i.e. it is that point, where no profit and no loss. Now, the forecast can be made to earn expected profit for coming year with help of budget sales revenue for the fiscal year 2012/13.

Margin of Safety

Margin of safety represents the strength of the business. It enables a business to know what the exact amount it has gained or lost is and whether they are over or below the break- even point. In break- even analysis, margin of safety is the extent by which actual or budgeted sales exceed the break even sales.

The margin of safety of Nepal Telecom for current fiscal year 2012/13 is NRS 15,787,382 thousands and for fiscal year 2008/09 is NRS 15,473,062 thousands (*refer: appendix 1*).Nepal Telecom has gained sales figure higher than the break- even sale in all five years under study.

4.7 Major Findings

- There was consistency between planned sales and actual sales, their correlation was high i.e. 0.92.
- Planned sales revenue was highly and positively correlated. The correlation of actual sales revenue is also positive and high.
- Operation and Maintenance expenditure were increasing trend with the line of sales amount.

- Operation and Maintenance expenditure were fluctuating proportion with sales amount like 41.23%, 51.00%, 50.96%, 64.54% and 69.53% on sales for the FY 2008/09, 2009/10, 2010/11, 2011/12 and 2012/13 respectively.
- There was inconsistency between Operation and Maintenance expenditure and actual sales amount.
- Profit amount were in fluctuating trend with the line of sales amount.
- Profit amount were fluctuating proportion with sales amount like 66.03%, 57.63%, 62.06%, 47.60% and 44.38% on sales for the FY 2008/09, 2009/10, 2010/11, 2011/12 and 2012/13 respectively.
- There was inconsistency between profit amount and actual sales amount.
- Investment made by NTC was increasing trend over the year.
- Collection period showed decreasing trend from 64 to 35 days.
- Debtors' turnover showed increasing trend from 5.75 to 10.71 times.
- P/V ratio shows that contribution signifies the efficiency of an organization.
- V.C ratio shows that the organization is able to utilize its resources efficiently.
- Margin of safety shows that the company is able to gain higher sales revenue than the break even sales in all five years that are considered for the study.

CHAPTER - V

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

5.1 Summary

After the Second World War many countries got political independence. Their desire of repaid growth to reach at the level of developed countries gave way to planned economy and establishment of PEs Nepal, being an under-develop country, adopted this principle and several PEs were established, Realizing that the rapid development of the country depends on industrialization, development of agricultural and proper utilization of abundantly found water resources , GON established NTC for development Communication between public to government , a major infrastructure requirement for development.

NTC is responsible for planning, operation and generation of electricity in the nation. Though, NTC's market was monopoly but nowadays there are many competitive of NTC. It was continuously facing problem of liquidity due to the improper management of revenue and overdue account receivables. Foreign aid and loans had always solved the problem of liquidity. If NTC had been able to manage revenue efficiently, foreign loan would not have increases less rapidly. Thus NTC should manage its revenue more efficiently for the interest of NTC and nation.

Business budgeting or profit planning and control are a systematically devised tool to help management for corporate planning, it is a process of established goals, planning for attainment and subsequently comparing actual performance with performance goal. A budget formal statement of plans generally forth in Rs, and Paisa.

In NTC, revenue results from the sales of Telecom and is measured by charges made to customers; Revenue is influenced by both external and planning which coordinates the efforts of revenue department Production department and all other departments.

Many factors should be considered for revenue planning including revenue trends, Limitation of supply, potential competitors and general level of economy. NTC must consider revenue planning as the starting point for its overall planning.

The long –term objective of NTC is to generate economic production, CDMA sets and sky phone sets of telecom and proper utilization of huge amount of communication like as internet service, Web SMS similarly ISD and STD Phone Sewa. NTC has articulated its mission as “Nepal Telecom as progressive, customer spirited and consumer responsive entry, 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 has been adopting planning practice to fulfill its mission and objectives, Revenue planning is the most essential aspect as revenue is the base on which future of the authority depends.

As for as revenue planning in NTC is concerned there are some major flaws. The starting point is the revenue planning i.e. demand forecast lacks consideration of some major demand determinates. Though NTC has achieve the target of planned revenue in overall basis, category-wise planned figure have not been achieve and NTC has not adopted the practice of preparing monthly budget. The communication required for planning is not proper. The trend of revenue is increasing and management has to manage hugger amount of revenue in future. Thus, NTC should apply corrective measures to eradicate the flaws in revenue planning.

NTC has many activity highlights which are as follows:

PSTN Switch Expansion

To cater to the growing demands of basic telephone services in the country PSTN switch expansion work is in progress, some parts of the expansion project under EWSD (Siemens) and JRACK (Alcatel) systems have been completed and bought into successful operation.

Under the EWSD system, the existing 10 host exchanges will be upgraded to version 17. The present operation and maintenance center will also be upgraded to NETMANAGER of the new version. Addition of 27k subscriber lines scattered in 10 host exchanges and their remote units also includes phase-out of equipment totaling to 14k lines, in addition, 1700 E1 trunks will be added and brought into service under this system.

The network expansion under JRACK system includes upgrade of the transit exchange and enhancing billing capabilities of some of the host exchanges that provide interconnection facilities to other operators. Addition of 24K subscriber lines and 1928 E1 trunks will be accomplished under this system in a few months. With the completion of this network expansion including, it is expected that the current constraints to provide adequate interconnection facility to the new telecom operators will be solved.

Prepaid Calling Card (PCC) Service

The Prepaid Calling Card (PCC) Service, which is commercially known as “Easy Call”, has become very popular. Like its commercial name it is very easy to make Local, STD and ISD calls from Nepal to any place around the world using PCC cards, PCC service for making ISD calls was previously accessible from Nepal Telecom’s PSTN phones, Payphones and Fixed Post Paid CDMA phones only. For the benefit of the people, this service has been made accessible even from Postpaid Mobile phones from 17th September 2006.

PCC Cards of face value NRs 1000, 500, 200 and 100 are available in the market with a validity period of 18, 12, 6 and 1.5 months respectively from the first date of using the card.

This service has been rewarding in terms of revenue generation. Due to its high demand and popularity in the market license capacity for this service has been increased recently on 17th may 2006 from 200000 to 250000. It is encouraging to mention that so far more than 700000 PCC cards have been sold.

Thus, NTC should try to reduce technical loss by improving its transmission system and non-technical loss by adopting legal, managerial, social, and other measures.

5.2 Conclusions

- The analysis of the present practice of revenue planning and Budgeting of Nepal Telecom Company Limited clarifies that there are many lapses noted strengthening of which may lead to maximum generation of revenue and consumer satisfaction.
- NTC has not considered demand determinants such as family income, price of call per minute, connection charges, cost of alternatives available, cost of auto generation of telecommunication and reliability of NTC service which helps in forecasting demand.
- The company has no major planning for distribution of SIM cards to its consumers and target growth in sales revenue though achieved is not properly planned. The study also signifies that while setting the target sales for next year.
- NTC has not considered other factors such as growth of consumer and other relevant factors. It has the practice of using 10% increment over the figure of the past year to forecast next year's sales as "benchmark".
- The relationship between budgeted and actual sales is positive from which it can be concluded that the actual sales revenue in future has the probability of increment.
- NTC has better trading profit in comparison to other public enterprises however it has not adopted the practice of preparing monthly budget, which is a necessity for better and proper planning and control.
- The NTC central ignores suggestions of branches and sub-branches. Network problems are faced by both mobile and land line users of NTC which the company is not able to overcome.
- The loss accrued due to the technical and non-technical reason may be attributed to the irresponsible and unauthorized use of telephone. Other factors contributing to non-technical losses are faulty billing devices in use, unaccountable public installation such as coin telephone and card phone, and NTC's inefficiency to records its own consumption. NTC's overdue amount of receivable is increasing year by year.

- The cash collection efficiency in Nepal telecom is better through which the company can maintain desired level of cash balance but the company has not determined optimum cash balance.
- NTC has no clear cut boundaries to separate cost into fixed and variable. The classification of cost is not scientific and systematic.
- Additionally NTC has not adequately considered controllable and non-controllable variables affecting the organization.

5.3 Recommendations

After analyzing the present practices of revenue planning in Nepal Telecom Company, there are various sectors where NTC can improve its services and increase revenue as well. After analyzing the findings and conclusions, the following recommendations could be made for the betterment of overall Revenue Planning and Budgeting of Nepal Telecom.

- NTC should consider demand determinants such as family income, price of telephone sets, SIM cards and cost of alternatives available, cost of self-mobile service such as voice mail cost, message cost and reliability of NTC service while forecasting demand.
- It should prepare plans and program for network related problems to increase consumer satisfaction.
- Realistic forecasting to increase sales revenue must be focused which can be achieved by preparing monthly budget for sales revenue.
- Suggestions from branches and sub branches should also be considered while preparing central budget of NTC.
- Budgeted target of sales unit or no of line has not been met but the demand of telephone line is higher.
- Nepal telecom should follow management by objectives (MBO) techniques to maintain coordination, cooperation and self-motivation among the different regional branches, departments and employees.
- NTC should achieve their activity highlights such as PSTN Switch Expansion, Prepaid Calling Card (PCC) Service and IVR Technology.

- It should avoid the practice of using 10% increment as benchmark figure in the preparation of budget. It should introduce programmed action plans for solving network related problems and loss due to stolen telephone lines and miss use of telephone calls.
- NTC should effectively check and control the unauthorized use of telephones.
- NTC should put more effort to manage the supply to the profitable sectors such as domestic, national and international wise.
- NTC should focus on providing more facility to its customer in comparison to other telecommunications such as Hello Nepal, N-cell Mobile, Smart Telecom and United Telecom.
- The company should focus on revenue planning and cash management by setting clear boundaries about fixed and variable cost, price cost volume profit relationship and an effective cost control program.

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APPENDIX-1

Sales Relation Calculations

(Units in millions)

F/Y	Budgeted Sales (X)	Actual sales(Y)	U=X-X	U ²	V=Y-Y	V ²	UV
2008/09	18,745.34	20,646.69	-	53,513,467.78	-	33,209,979.10	42,156,626.36
2009/10	22,711.36	25,058.30	-	11,217,609.53	-	1,825,741.44	4,525,533.62
2010/11	26,060.63	26,409.50	0.00	0.00	0.00	0.00	0.00
2011/12	28,089.67	29,055.50	2,029.04	4,117,003.32	2,646.00	7,001,316.00	5,368,839.84
2012/13	30,898.64	34,140.00	4,838.01	23,406,340.76	7,730.50	59,760,630.25	37,400,236.31
	ΣX=	ΣY=	ΣU=	ΣU²=	ΣV=	ΣV²=	ΣUV=
	126,505.64	135,309.99	3,797.51	92,254,421.40	3,262.49	101,797,666.79	89,451,236.13

Source: Annual Report of NTC

Here,

Budgeted sales is assumed X

Actual sales is assumed Y

I. Calculation of mean

For Budgeted Sales (X)

We have,

$$\text{Mean}(\bar{X}) = \frac{\Sigma X}{N}$$

$$= \frac{126,505.64}{5}$$

$$= 25,301.13 \text{ (units in millions)}$$

For Actual Sales (Y)

We have,

$$\text{Mean } (\bar{Y}) = \frac{\Sigma Y}{N}$$

$$= \frac{135,309.99}{5}$$

$$= 27,061.99 \text{ (Units in millions)}$$

II. Calculation of Standard deviation

For Budgeted Sales (X)

We have,

Standard Deviation

$$\text{S.D. } (\sigma_x) = \sqrt{\frac{\Sigma U^2}{N}}$$

$$= \sqrt{\frac{92,254,421.40}{5}}$$

$$= 4,295.45$$

For Actual Sales (Y)

We have,

Standard Deviation

$$\text{S.D. } (\sigma_y) = \sqrt{\frac{\Sigma V^2}{N}}$$

$$= \sqrt{\frac{101,797,666.79}{5}}$$

$$= 4,512.15$$

III. Calculation of Correlation Coefficient

$$r_{xy} = \frac{\Sigma UV / N}{\sigma_x \times \sigma_y}$$

$$= \frac{89,451,236.13 / 5}{4,295.45 \times 4,512.15}$$

$$= 0.92$$

$$\begin{aligned}
 \text{IV. Calculation of Probable Error}(r) &= \frac{1 - r^2}{\sqrt{n}} \\
 &= \frac{1 - (0.92)^2}{\sqrt{5}} \\
 &= 0.07
 \end{aligned}$$

V. Calculation of Regression Equation:

$$(Y - \bar{Y}) = \frac{r_{xy} (X - \bar{X}) * \sigma_y}{\sigma_x}$$

Where,

$$\bar{X} = 25,301.13 \quad (\text{Rs. in millions})$$

$$\bar{Y} = 27,062.00 \quad (\text{Rs. in millions})$$

$$\sigma_x = 4,295.45 \quad (\text{Rs. in millions})$$

$$\sigma_y = 4,512.15 \quad (\text{Rs. in millions})$$

$$r_{xy} = 0.92$$

$$\text{Or, } Y - 27,062.00 = 0.92(X - 25,301.13) \cdot 4,512.15 / 4,295.45$$

$$\text{Or, } Y - 27,062.00 = 0.92(X - 25,301.13) * 1.0504$$

$$\text{Or, } Y - 27,062.00 = 0.97X - 24,532.34$$

$$\text{Or, } Y = 0.97X + 2,529.65$$

VI. Calculation of Straight Line trend by least:

$$Y_c = a + bx$$

Where,

Y=actual sales

X= time (years)

Calculation of straight lime trend by least square

Fitting straight line trend by least square

Fiscal Year (FY)	Actual Sales (Y)	Mid time (X)	X ²	XY
2008/09	20,646.69	-2	4	-41,293.38
2009/10	25,058.30	-1	1	-25,058.30
2010/11	26,409.50	0	0	0.00
2011/12	29,055.50	1	1	29,055.50
2012/13	34,140.00	2	4	68,280.00
Total	ΣY=	ΣX=	Σ X ² =	ΣXY=
	135,309.99	0.00	10.00	30,983.82

(Sources: Annual Reports of NTC)

Substituting the value in straight line equations

$$Y_c = a + b_x$$

Where,

$$a = \frac{\Sigma Y}{N} = \frac{135,309.99}{5} = 27,062.00$$

$$b = \frac{\Sigma XY}{N}$$

$$= \frac{30,983.82}{5}$$

$$= 6,196.76$$

$$Y_c = 27,062.00 + 6,196.76 X$$

VII. Calculation of Profit Volume Ratio

$$\text{P V. ratio} = \frac{\text{Sales revenue} - \text{Variable cost}}{\text{Sales revenue}}$$

Year	Sales(a)	Variable Cost(b)	Amount in NRS
			PV Ratio [c=(a-b)/a]
2008/09	20,646,628,886.00	4,456,795,774.00	0.784
2009/10	25,058,303,890.00	5,570,972,553.00	0.778
2010/11	26,409,499,199.00	5,560,362,174.00	0.789
2011/12	32,807,523,218.00	9,315,822,484.00	0.716
2012/13	34,140,807,888.00	11,621,050,965.00	0.660

VIII. V/C ratio or Variable Cost Volume Ratio

$$\text{V C ratio} = \frac{\text{Variable cost}}{\text{Sales revenue}}$$

Amount in NRS

Year	Variable Cost(a)	Sales(b)	VC Ratio{c=a/b}
2008/09	4,456,795,774.00	20,646,628,886.00	0.216
2009/10	5,570,972,553.00	25,058,303,890.00	0.222
2010/11	5,560,362,174.00	26,409,499,199.00	0.211
2011/12	9,315,822,484.00	32,807,523,218.00	0.284
2012/13	11,621,050,965.00	34,140,807,888.00	0.340

IX. Break Even Sales

$$\text{BEP in Rs} = \frac{\text{Fixed cost}}{\text{P/V ratio}}$$

Amount in NRS

Year	Fixed Cost(a)	PV Ratio(b)	Break Even Sales(c=a/b)
2008/09	4,056,796,354.00	0.784	5,173,565,916.81
2009/10	7,209,000,274.00	0.778	9,269,884,956.80
2010/11	7,899,159,524.00	0.789	10,005,826,470.02
2011/12	11,858,808,710.00	0.716	16,561,514,489.59
2012/13	12,106,177,449.00	0.660	18,353,425,392.54

X. Margin of Safety

Margin of Safety= Actual Sales – BEP Sales

Amount in NRS

Year	Sales(a)	BEP Sales(b)	MOS[c=a-b]
2008/09	20,646,628,886.00	5,173,565,916.81	15,473,062,969.19
2009/10	25,058,303,890.00	9,269,884,956.80	15,788,418,933.20
2010/11	26,409,499,199.00	10,005,826,470.02	16,403,672,728.98
2011/12	32,807,523,218.00	16,561,514,489.59	16,246,008,728.41
2012/13	34,140,807,888.00	18,353,425,392.54	15,787,382,495.46

APPENDIX- 2

Brief Introduction

Year	Milestone Details
1913	Establishment of first telephone lines in Kathmandu
1914	Establishment of Open wire Trunk Link from Kathmandu to Raxaul (India)
1935	Installation of 25 lines automatic exchange in Royal Palace
1936	Installation of Open Wire Trunk line from Kathmandu to Dhankuta
1950	Establishment of Telegram Service
1950	Introduction to High frequency Radio System (AM)
1950	Establishment of CB telephone exchange (100 lines) in Kathmandu
1951	Installation of Open Wire Trunk line from Kathmandu to Palpa
1955	Distribution of telephone line to general public
1962	First Public Telephone Exchange in Kathmandu (300 lines CB)

1964	Beginning of International Telecommunications Service using HF Radio to India and Pakistan
1965	First Automatic exchange in Nepal (1000 lines in Kathmandu)
1971	Introduction of Telex Services
1974	Microwave transmission links establishment for internal trunk
1982	Establishment of Standard "B" Type Earth Station for international circuits
1982	Establishment of SPC telex exchange
1983	Establishment of digital Telephone Exchange
1984	Commencement of STD service
1984	Reliable Rural Telecom Service (JICA)
1987	Commencement of STD service
1995	Installation of Optical Fiber Network
1996	Conversion of all Transmission link to Digital transmission link
1996	Automation of the entire Telephone Network
1996	Independent Int. Gateway Exchange established
1996	Introduction of VSAT services

1997	Digital Link with D.O.T. India through Optical Fiber in Birgunj - Raxual
1998	Direct Link with Bangladesh
1999	Launching of GSM Mobile service
2000	Implementation of SDH Microwave Radio
2000	Launching of Internet Service
2001	Launching of Payphone Service
2002	East West Highway Optical Fiber Project
2003	GSM Prepaid Service
2004	NEPAL TELECOM (Transformation from Corporation to Nepal Doorsanchar Company Limited)
2004	Pre-paid Calling Card Service (IN Services)
2005	Soft launch of CDMA
2005	Access Network Services
2005	Outsourcing of Enquiry Service (197)
2006	PSTN Credit Limit Service - PCL (IN)
2006	Home Country Direct Service – Nepal Direct (IN)
2006	MCC (198) Complaint Registration via IVR in Kathmandu Valley

2006	CDMA Limited Services in Kathmandu Valley
2007	National Roaming for CDMA Mobile (Sky Phone) started
2007	Expansion of Internet Bandwidth via Optical link between Nepal & India
2007	PSTN Bill Enquiry Service started via 1606 IVR Service
2007	VOIP Call Complaint Registration started via 188 IVR Service
2007	GPRS, 3G and CRBT Services introduced in GSM Mobile
2008	Broadband ADSL Service launched
2008	IVR Service 1607 started for GSM and CDMA PUK Enquiry
2008	IVR 198 service extended for ADSL Fault Complaint Registration
2008	PSTN VMS Notice Board Service Launched
2009	IVR 198 Service extended outside KTM valley
2009	IVR 1606 Service extended outside Kathmandu Valley
2009	SMS Service from GSM to CDMA mobile started
2009	Postpaid CDMA Mobile Service started
2010	EVDO Service started on CDMA
2010	Soft Launch of Easy Phone IP Call Service

2010	Volume based ADSL Started
2011	3G Data Card Internet service
2011	ERP Implemented
2011	Mobile Point of Sale (MPOS)
2011	Missed Call Alert Notification on GSM
2012	WiMAX System based on 4G Technology
2012	International Gateway System
2012	Unified Communication Services (UCS)
2012	Service Delivery Platform (SDP)
2012	Network Operation Center (NOC)
2012	Date Center
2013	International SMS Service to CDMA Subscribers
2013	Start of Old Gateway migration into new Int'l Gateway