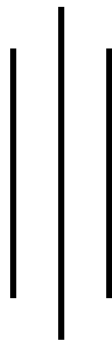


**A STUDY ON
PROFIT PLANNING STRUCTURE OF
NEPAL TELECOM
AND
ITS PROGRESSIVE STATUS**



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Ram Swarup Ram Sagar Multiple Campus, Janakpur Dham

In partial fulfillment for the requirement of the Degree of Master of
Business Studies (M.B.S.)
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RECOMMENDATION

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DECLARATION

I hereby declare that the worked reported in this thesis entitled Profit Planning structure of Nepal Telecom and Its Progressive Status submitted to Ram Swarup Ram Sagar Multiple Campus, Faculty of Management, Tribhuvan University is my original work done in the form of partial fulfillment for the requirement of Master's Degree in Business Studies (MBS) under the supervision of Lecturer Shambhu Nath Jha of RRM Campus, Janakpur.

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CHAPTER – I

INTRODUCTION

1.1 Background of the study

Located in South Asia with the area of 1, 47,181 Sq Km., Nepal is a landlocked country where 77% of the total land is covered by rugged topography, snow, barren mountains and sloppy hill. Rest of the land is of plain type. Nepal is a Mountainous country where highest peak of the world is located named MT Everest. Hence it is popularly known as third pole. With its varying topography and climate, Nepal is rich in biodiversity. It is also the birth place of Lord Buddha. The country has the agriculture oriented economy with around US \$320 per capita income as per world development report in 2007/2008. As a developing country it is on the path of economic growth. The Nepalese economy broadly accommodates three sectors; manufacturing, service and agriculture. The contribution of agricultural sector is not satisfactory. Nowadays the contribution of service oriented industries is occupying almost 50 percent of the economy.

Nepal is surrounded by two economically giant and powerful countries namely India and China, in the north by China and in other three sides by India. China is going to become a leading country in the world economy through manufacturing industry whereas India is challenging through service industry. In such growth, business enterprises are actively contributing for the economy. The Nepalese business market is threatened by all four frontiers. The Nepalese economy is mixed economy. The two types of business enterprises are namely public enterprise and private enterprises involved in the mixed economy of the country. Public enterprises are government owned business organizations established with the objectives of providing public service and setting up infrastructure development. On the other hand, private enterprises are established with the primary motive of profit generation at the same time contributing of the national economic development. Hence both enterprises play the vital role for the overall development of the nation by mutual effort.

While reviewing the past trend of business performance, one can easily unfold the bitter truth of deteriorating financial condition of most of the public enterprises ultimately leading to liquidation or restructuring. Thus financial sickness has been a matter of recognition for the public enterprises. On the contrary, Nepal Telecom, unlike from other public enterprise has a relatively good track of profit earning. Profit is an indicator of how far an organization is capable of contributing to national economy and how well the publicly collected fund is utilized. It also shows the degree of efficient utilization of the resources to achieve primary

objectives. In other word, profit planning analysis is the critical judgment of information in financial statements. With the help of profit planning, different stakeholders make future anticipation of their interest on business. Better profit planning also shows the capability of organization for achieving the business goals by integrating and coordinating the business activities to each other. Conclusively, it can be expressed that profit planning and achieving it is the yardstick to measure organizational success. Without success the organization can stride no longer distance.

1.2 Brief profile of Nepal Telecom (Door Sanchar Company Limited)

Profile refers to the identity with image of general background and successive growth path to the present status through surpassing the challenges and pitfalls. Tele is over long distance whereas the communication is the exchange of messages in the mutual understandable form through various communication means. Collectively the Telecommunication is concerned with exchange of messages over a far distance along with the short distance too through various communication devices. Telecommunication links the geographically inaccessible parts of the world into the linguistic world. Nepal Telecom is an organization of providing telecommunication services. Telecommunication is an inevitable infrastructure of development to all countries. It is considered as pre-requisite for the other dimensions of development. In Nepal the need of telecommunication services are primarily fulfilled by Nepal Telecom.

1.2.1 Company's Introduction

History of telecommunication service in Nepal is not so long. Firstly telecommunication service in the country had been introduced in 1872 BS as telegram service. It had been further extended from 1972 BS from Kathmandu to Thankot, Chisapani, Bhimphedi, Bhaise Hetauda and Birgunj which was called Magneto Telephone. It was opened to use for general people only from 1992 BS. Since 2012 BS, the development of telecommunication service had been approached to the access of general public through 300 lines of Manual Telephone Exchange, but in slow pace.

After Nepal started systematic economic development by lunching its first five year plan in 2013 BS various national and international trunk lines were added and cross bar telephone lines to people and public offices were distributed. In 2016 BS, the Telecommunication Department was established integrating all the availed telephone services outside the valley. The Telecommunication Department was named Telecommunication Board in 2026 BS after the establishment of Telephone Exchange in 2019 BS at Sundhara with the capacity of 1000

lines. With the formal inception of Nepal Telecommunications Corporation in 2032 BS, a systematic development of telecommunication services has been started. It was established under the Telecommunication Corporation Act 2028 BS. In fact, the advent of Telecommunication Corporation Act is the major step taken by the Nepal Government to provide systematic and scientific telecommunication facility.

After the restoration of democracy in 2046 BS Nepal followed multi-party democracy system. Meanwhile the globalization had been surging effectively throughout the world. That is why, Nepal brought an introduction of liberalized economic policy gradually facilitated the private sector investment, as a result, multinational companies also showed their presence both in the manufacturing and service sector of the economy. Competition appeared in the private and public sector too. Further more public enterprises started to be privatized. Such trend couldn't also remain intact without influencing Nepal Telecommunication Corporation. Hence Nepal Telecommunication Corporation has been changed to Nepal Doorsanchar Company limited on Baisakh 1, 2061 BS under the company act 2053 to make the telecommunication services compatible with liberalization policy of the government. It is popularly known commercial name is "Nepal Telecom".

Although Nepal Telecom has been recently established under the company act its 91.5269 % ownership has been held by Nepal government up to Ashadh 31, 2065. Government by receiving the most of the investment from government owned entities; however, it has been gone on the process of issuing shares to public. The portion of the public share is 3.53312% whereas the portion of employee's share is 4.93998%. Its central office is located at Bhadrakali in Kathmandu, capital city of Nepal. It has been providing various telecommunication services through different branches in national and international level. It has been successful to become the highest tax payer to the government. That is why; it has become a part of government to collect revenue and hub for the infrastructure development all the way to economic developments. This is the result of efficient and effective operational strategies.

1.2.2 Objectives of the Company

Objective is the desired result of the organization to be achieved in the future. The objectives can be short and long term, normally short term is for one year and long term is for more than one year. Objectives can also be classified according to level as corporate level, business level and functional level. Corporate level objective includes overall objectives of an organization. Business level objective defines the desired result of the business unit. And functional level objectives are the desired outcomes of the various functional departments. It is also called operational objectives. All business organizations are established with the specific objective

either profit making or nonprofit making organizations. The objective includes vision and mission too in broader sense. The vision, mission and objective of Nepal Doorsanchar Company Ltd are as follows:

Vision

It states where the organization wants to be in the long-term perspective. It is the aspiration of the organization. The vision of the company is to provide cheaper and reliable telecommunication services to all people easily along with the leading service provider for long run.

Mission

Mission states the reason for existence of the organization. It defines the products, market, and competitive scope of the organization for the long term. It describes values and priorities. It projects image of the organization. The mission of the company is to provide reliable telecommunication services devoted to the customer s interest as a progressive organization for the significant contribution in economic and social development of the country.

Goal

Goal includes the desired outcome of the organization. The prime objective incorporated by Nepal Telecom is to provide reliable and affordable telecommunication services all over the country via least developed area to urban area in the competitive telecommunication business. This objective is in turn coupled with economic development of country. It also helps in promoting balanced development by creating employment and building the infrastructure.

1.2.3 Products of the company

Generally business products are of two types; tangible and intangible products. Service organization handles intangible products. Nepal telecom is a service organization. Products of the company refer the services provided by the company through various telecommunication means. At present, Nepal telecom has provided national and international trunk services in all 75 districts of the nation. Service products provided by Nepal Telecom are

Basic Telephone Service:

- Local calls
- National Trunk calls
- International Trunk Call service
- Leased lines
- ISDN [integrated service Digital Network]

- Rural Telecom Service
- Pay Phone service
- Prepaid calling card service [PCC Easy Call Service]
- Home Country Direct Service [HCD Service]
- Advance Free Phone Service
- PSTN credit limit service
- **IVR Services:**
 - IVR 197 PSTN Telephone Number Inquiry Service
 - IVR 198 PSTN and ASDL Fault Complaint Register Service
 - IVR 188-VOIP Call Complaint Register Service
 - IVR 1600-SLC Exam Result Publication Service
 - IVR 1601-10+2 Exam Result Publication Service
 - IVR 1606 PSTN Telephone Bill Inquiry Service
 - IVR 1607 GSM and CDMA Mobile PUK Number Inquiry Service
- **PSTN VMS service:**
 - PSTN Voice Mail and Fax Mail Service
 - Notice Board Service
- **Other Facilities:**
 - Caller ID (CLD) Facility
 - Locking Code Facility
 - Hunting Facility
 - Call Transfer Facility
 - 3 Party Conference Facilities
 - Call Waiting Facility
 - Home Metering Facility
 - Abbreviated Dialing Facility
 - Wake Up Call Facility
- **GSM Mobile Service:**
 - Postpaid NTC Mobile
 - Prepaid Namaste Mobile
 - International roaming (Incoming & Outgoing)
 - SMS Service
 - Web Service

- Caller Ring Back Tone (CRBT)
- 3G
- GPRS
- Voicemail
- Balance Transfer

CDMA Service:

- Fixed Postpaid C- Phone
- Fixed Prepaid C-Phone
- Postpaid Mobile
- SKY Phone(Prepaid Mobile)
- SKY DATA (Wireless Internet)

DATA Services:

- Leased Line Connectivity (Speed: 64kbps)
- Internet and E-mail
- ADSL (Asymmetric Digital Subscriber Line) High Speed Internet Service
- PSTN Dial-up(Internet/E-mail)
- Fixed Hour Internet Package
- Night Surfing Package
- Unlimited Single User Package
- ISDN (Integrated Service Dialing Network) dialup
- PSTN Bills in the Internet
- Post-paid Mobile Bills
- Telephone Inquiry
- E-mail Alert
- Web SMS

Others:

- Voice Data and Telegraph Leased Circuit Services
- Mini-M Services
- Telex Services
- V- Sat Services

1.2.4 Role of Nepal Telecom

- To fulfill the need of distant communication services
- To add a reliable dimension of infrastructure development

- To introduce emerging communication technologies
- To enhance economic development of nation
- To minimize the digital divide by serving in rural area
- To provide quality service
- To provide support to ancillary industries
- To provide cheaper and reliable services
- To introduce computerized services and strengthen as time pace
- To link 75 districts into communication services
- To support in poverty reduction through providing employment opportunities
- To follow the market economy principles
- To link the communication service into the world communication services

1.3 Statement of the Problem

Being Nepal is a mixed economic country; Public enterprises are equally important in contribution of nation building through revenue generation and infrastructure development as private enterprises. Public enterprises are generally liable to the fulfillment of the basic needs of the people. So they are created for infrastructure development, to generate surplus for self expansion of their service and to contribute for national revenue. So it is complicated to assess the efficiency of public enterprise with their socio-economic development goals. Public enterprise has to be efficient in the utilization of resources. Hence, organization must assess its financial health. As most of the industries depend heavily upon the external and internal information, industrialization without telecommunication development is difficult to imagine. Till the present, there is overwhelming demands of Nepal Telecom services, as it does have a little market competition. Despite this fact, the profit of Nepal Telecom is satisfactory as compared to the service delivery.

On the other hand the organization is going to issue its share to the public. Regarding its net profit, NTC is successful public enterprises because it is operating at voluminous profit over the studied period. But net profit is not only the parameter of measuring the effective financial position. Even when the profit is in increasing trend, there may have some weakness like price hike. Profit of NTC in relation with investment is low a bit and fluctuate the net profit margin during the studied period. Low capacity utilization of resources and problem of receivable management is the serious problem of NTC. Low capacity utilization causes increase in the cost of production of service whereas receivables affect the liquidity position of an organization. The operating expenses of NTC have been increasing each year. NTC has not

been able to generate the required funds to operate its activities too. In each fiscal year, it has been taking huge amount of loan, grant and donation from foreign government and donator agencies even the most profit generating organization and paying largest amount of tax to the government. It shows the internal inefficiency of NTC. So, this research has tried to highlight the financial problems of this corporation. The matter of financial performance of Nepal Telecom holds keen interest to the stakeholders. In this context, the study primarily focuses on the financial obligation, profit planning, capacity utilization and progress status etc up to 2008. So, the present research has tried to solve the following research questions:-

- What are sources of profit of Nepal Telecom?
- What is the structure of profit generation?
- Is capacity utilization in Nepal Telecom is efficient?
- What is the financial position of Nepal Telecom?
- How profit planning mechanism is used by Nepal Telecom?

In the pursuance of the answer for above problems, I had to face many problems; visit many times for the same work, not to meet the required person when I visited for him, the NTC staff lingered me for a very small work, visit into different departments for a work and so on. Although these problems I has tried to make the answer meaningful and lucid.

1.4 Objective of the Study

Objective is the desired outcome of the activity to be undertaken in the future as planned. The objective itself defines the scope and limitation of the study too. Objective entails the intention of the study. All the studies are rounding up the objective. The main objective of this study is to examine the present comprehensive profit planning mechanism applied by NTC and the success history of the same. The main objective also follows the assessment of the strengths and weakness of Nepal Telecom. The specific objectives are:

- To analyze the financial position of Nepal Telecom
- To analyze target and actual budget of Nepal Telecom
- To assess the strengths and weakness of Nepal Telecom
- To identify the contribution of Nepal Telecom to national economy
- To show revenue generation from different products of NTC

1.5 Significance of the Study

Significance means the favorable contribution of the study in various matters or usefulness of the study for different concerned parties. Nepal Telecom is an enterprise of great national concern. It is a public enterprise that is why it is a great concern for both the government and the general public. As it is going to be privatized in nearest future in competitive business environment, concerned parties are looking over its performance with great interest. As a private enterprise it will have to bear the obligation of socio-economic development as well despite the main objective of profit making, so study of profit planning of leading telecommunication service provider in the nation will be important for the following group and individuals:

- Present and perspective customers
- Present and perspective investors
- Policy making authority
- Further researchers
- Government
- ICT based companies

The slogan of the Nepal Telecom is solely “Rastra Nirman Hamro lakshya” with the “Dedicated to Customers Service”. The study will further help making proved the slogan into the reality.

1.6 Limitation of the study

Limitation refers the uncovered area by the concerned study. Everything has its own drawbacks. Nothing in the world is limitless. Similarly, the limitation of the study is the limit of usefulness of the study. Nothing is the panacea in the world. The study has the following limitations:

- Only the financial aspects and profit planning analysis shall be made with bird eyes view, the other area such as Marketing, Human Resource, Research and Development and Engineering department are the matter of less concern.
- The study is constrained with the causes of success and the failure of the planning mechanism of Nepal Telecom.
- The study does not describe the overall efficiency.
- Secondary data are collected from annual reports of the concerned enterprises. It may not be applicable to any other enterprise.
- The study covers the period of eight years only from 2059/2060 to 2066/2067 B.S.
- Interview might have been subjective.
- Primary data are not adequate as required.
- The some of abbreviated word are not converted into their full form.

1.7 Organization of the study

Organization is the process of making arrangement of the study into the standard and acceptable form that relates the valid conclusion with the coherency and relevancy. The organization of the study is important to infer the study's outcome through the concise representation of data and information. The study is divided in the following five chapters as prescribed by the university:

Chapter I: Introduction

Chapter II: Review of Literature

Chapter III: Research Methodology

Chapter IV: Presentation and Analysis of Data

Chapter V: Summary, Conclusion and recommendations.

Chapter one focuses on general background of the study. It deals with the major issues to be investigated along with general background of the study, statement of the problem, objective of the study, significance of the study, limitation of the study and organization of the study. This chapter signifies the rationale of this study.

Chapter second deals with conceptual consideration and review of related literature which provides a framework, with the help of which the study has been accomplished. In this chapter major empirical works have been also discussed. This chapter helps in making research questions, scope of study, and elimination of duplicate work and less time and effort consuming. It also helps in seeking the relevancy of research work.

Chapter three is devoted to methodological approach employed in this study. This chapter includes research design, nature and sources of data, population and samples, method of analysis and definition of key terms. This chapter deals with the pattern of carrying out of research work. Methodology makes the research work easy and finishes the research work in stipulated time schedule.

Chapter four deals with the techniques used in analyzing collected data and its presentation in the descriptive and analytical manner. This chapter makes the data speak or give the meaning into use with interpretation and relationship development. Data presentation makes the theories easy to generalize in the real world.

Chapter five consists of summary, conclusion, and recommendation. Summary is the brief form of study. Conclusion is finding of the research work through detail investigation and lastly recommendation is the suggestion for future improvement or follows.

CHAPTER-II

REVIEW OF LITERATURE

2 Conceptual Reviews

2.1 Concept of Profit Planning

Profit planning and control is an important approach mainly used in profit oriented enterprises. It is merely a tool of management not the end of management. Profit planning and control consists of comprehensive budgeting, managerial budgeting and simply budgeting. This term is broadly defined as a systematic and formalized approach for performing significant phases of the management planning and control functions. Profit planning and control includes the following facts:

- The development and application of broad and long range objectives for the enterprises.
- The development of strategic long range profit plan in broad term, the specification of tactical short range profit plan detailed by assigned responsibility (division, Department, products, projects).
- The specification of enterprises goals.
- Establishment of control system.

The establishment of a system of periodic performance reports detailed by assigned responsibility and follow up procedures (Welsch, Hilton and Gardon, 1999: 4-5). In many of the better managed companies, comprehensive PPC has been identified as a way of management to accomplish the management functions. It focuses directly on a rational and systematic approach to get management objectives and realistic flexibility in performing the management process. A systematic approach facilitates effective management performance. The international management institutions conference on budgetary control held at Geneva in 1980 has defined profit plan as an exact and rigorous analysis of the past and the probable and desired future experience with a view to substituting considered intention, opportunism in management (International Management Institutions Geneva Conference Document, 1980:120).

Profit plan is estimation and predetermination of revenues and expenses that estimates how much income will be generated and how it should be spent in order to meet investment and profit requirements. In the case of institutional operations, it presents a plan for spending income in a manner that does not result in a loss (Ninemeire & Schmidgall, 1984:26).

Profit plan represents an overall plan of operations, covers a definite period of time and formulates the planning decisions of the management. It can be viewed as one of the major important approaches that have been developed to facilitate effective performance of the management process. Now a days profit planning system is especially familiar to business organizations but the practicability of it depends upon the size and the nature of the business organization. The Profit Planning and control requires the basic business policies before the PPC establishment that shows the direction to the business. The common objectives of PPC system whether applied to business administration is to formulate policy as well as with the implementation of policy and an objective achievement established after the consideration of the probable courses of events in the future.

In conclusion, PPC is directed towards the final objective achievement of the enterprises and generally includes all of its important elements from planning to control. It has main objective of attaining the optimum profit in the enterprises through efficient resource allocation.

2.1.1 Components of Profit Planning

2.1.1.1 Profit

Without profit, generally the organization existence can't be imagined. Profit is the pivot of all organizational operations. That is why it is essential to know the concept of profit. Profit is the basic element of profit plan so that the concept of profit planning may not be complete and meaningful in absence of the clear and well defined idea of profit. Profit means (a) financial gain (b) amount of money gained in business especially the difference between the amounts earned and the amount spent (c) advantage or benefits gained from something (Oxford dictionary, Hornby 1992:56). Profit has been defined differently by different authors. Various concepts have been developed in respect of profit: (a) Economic profit (b) Accounting profit. Some definitions of profit have been given below:

Profit is the rent of "exceptional abilities that an entrepreneur may possess" over others (Walker's theory of profit).

"Profits arise in a dynamic world, not in a static economy (J.B.Clark's Dynamic theory of Profit)."

"Profit is as reward for risk bearing (Hawley's Risk Theory of Profit)."

"Profit is as a return to uncertainty bearing (Knight's Theory of Profit)."

"Profit is as reward for innovation (Shumpter's Innovation theory of Profit)."

Generally profit is a factor payment for taking the risk for agreeing to take what is left

over after contractual has been made. In another type of profit theory is viewed as a wage for the service of innovation. Profits in this way are tried to be viewed as dynamic development. All enterprises'

activities directly or indirectly revolve to play the significant role for judging the managerial efficiency. In absence of profit nobody can think about the long term survivability of the enterprises. Profit is gained in short term and long term according to time frame of profit planning aspect.

Short range and Long range profit planning

Long range and short range profit plans mean strategic and tactical profit plans respectively. The two types of profit plans are developed in PPC. The strategic profit plan is broad and it usually encompasses five or more year time horizon of the future. The tactical profit plan is detailed and encompasses of one year time horizon of coming year. In between strategic and tactical plan, the medium term plan or interim plan exists.

The development of strategic plan is assigned to the top level management whereas the tactical plan follows the strategic plan. Strategic plan is prepared by considering future market potentials, population changes, state of economy, industry projections, company s objectives because they affect in such as pricing, development of new product line, innovation of product, expansion of distribution channel, cost reduction etc. The tactical plan includes a detailed plan for each major products and groupings of minor products. The development of strategic plan and tactical profit plans is a process that involves managerial decisions and ideally a high level of management participation (Welsch & et all, 1999:75).

2.1.1.2 Planning

No organization can go orderly without planning whether that is profit motive organization or non profit motive organization. That is why; planning is the first and foremost function of the organizations. Planning is the basic foundation of PPC. We should be clear in the concept of planning. Planning means: (To do something) arrangement for doing or using something, considered or worked out in advance, way of arrangement something especially when shown on a drawing scheme, go ordering to plan (Oxford Dictionary, Hornby, 1992:84). "Planning is the process of developing enterprises objectives and selecting a future course of action to accomplish them. It includes developing of premises about the environment in which they are to be accomplished (Welsch & et all, 1999:26)."

"Planning is deciding in advance what is to be done in future (Bhusan, 1976:36)."

"Planning is the feed forward process to reduce uncertainty about the future. The planning

process is based on the conviction that management can plan its activities and conditions of the state of the enterprises that determine its destiny (Pandey, 2006:21).” Plan is then a projected course of action. All planning involves anticipation of the future course of events and, therefore, bears an element of uncertainty in respect of its success. Management planning and control begins with the establishment of the fundamental objectives of the organization and continues as the process by which necessary resources are provided and employed effectively and efficiently towards the achievement of goals. Planning is essential to accomplish goals. It reduces uncertainty and provides direction to the employees by determining the course of actions in advance. Hence planning is the backbone function of the management. We can point out the nature of planning as:

-) Planning is future oriented.
-) Planning is goal oriented process.
-) Planning is primary function of management.
-) Planning pervades all managerial activities.
-) Planning is an intellectual work.
-) Planning is directed towards efficiency.
-) Planning is prepared for both the environment external and internal.
-) Planning is paperwork.
-) Planning guides all the managerial functions.
-) Planning includes long range and short range planning.

Long range planning is closely concerned with the concept of the organization as a long living institution. It is most important for broad and long living enterprises. Long range planning varying five to ten years or more with the enterprises is sometimes extended to ten years. Strategic planning is one of the most difficult time-span involved in planning as many problems in short range planning; can be traced to the absence of a clear sense of direction and the practices which a comprehensive long range plan provides. The short term planning is limited by time dimensions usually it covers one year time period. Short term plan is used by the management as a substantial part of the long range plan. It is specified by products, responsibility, by month etc. It is sometimes called operational plan.

2.1.1.3 Basic Assumptions and Limitations of Profit Plan

A Profit plan is the formal expression of the enterprises plans and objectives stated in financial terms for a specified future period of time [I. M. Pandey]. Profit planning systems

are more common in business organizations and non business organizations because all the operations are directed to the future that necessitates planning. It is related in future course of action of any types of undertakings. So the profit plan definitely includes assumptions and limitations. There are so many assumptions of using profit planning program. Assumptions are those on which the theories or programs are based on.

-) Firstly, the basic plans of the business must be measured in terms of money, if there is to be any assurance that many will be available for the needs of the business.
-) Secondly, it is possible to plan for the future of a business in a comprehensive way, coordinating every aspect of the business, with every other aspect to establish optimum profit goal.
-) Thirdly, profit planning is preplanning not merely what to do if things workout as forecasted, but also what to do if the things work out differently from the forecast.
-) Moreover those past variables are to be reoccurred with the same degree of effect in same way.

In developing and using a profit planning program, the following limitations should be kept in mind:

-) The profit plan is based on estimates.
-) A profit planning program must be continually adapted to fit changing circumstances.
-) Execution of profit plan will not occur automatically the profit plan is not a substitute for management (Welsch & et all, 1999:125).
-) Profit plan is an estimation and quantitative expression of the data therefore it can attach the some short of rigidity.
-) Profit plan is a costly affair due to the requirement of proper evaluation system for actual performance.
-) Profit Plan may not represent the realistic future so it can produce lower morale and productivity.

The profit plan should be regarded not as a master but as a servant. It is one of the best tools yet devised for advancing the affairs of an organization and individuals in their various spheres of managerial activity. It is not assumed that any profit plan is perfect. The most important consideration is to make sure, by intelligent use of profit plans that all possible attainable benefits are derived from the plans as rendered and to re-plan when there are compelling business reasons (Welsch & et all, 1999:96).

2.1.1.4 Implementation of Profit Plan

The plans are developed for implementation. Implementation is the process of converting the plans into action to make the objectives fulfilled in real state. The profit plan is synonymously viewed as a budget program. A budget programs viewed and administered in a sophisticated way does not hamper or restrict management, instead, it provides definite goals around which day to day and month to month decisions are made. Flexibility in the use and application of both the profit plan and variable budget also should be considered in detail. Flexibility in budget application is essential and it increases the probabilities of achieving or making better the objectives.

The final test of whether the efforts and costs in developing a profit plan are worthwhile to its usefulness for the management. Profit plan should be developed with the conviction that the enterprises are going to meet or exceed all major objectives. Participation of all levels of management is essential for the objective achievement. Participation enhances communication. If this principle is to be effective, the various executives and supervisors should have a clear understanding of their responsibilities. The copies of the complete profit plan be prepared and distributed to the members of executive management. The guiding principal in establishing the distribution policy might be to provide one copy to each member of the management team according to their overall responsibilities, while asking into account of the problem of security and making the clear picture of future path.

After distribution of the profit plan a series of profit plan conference should be held. The top executives discuss comprehensively the plans expectations and steps in implementation. At this top level, meeting the importance of action, flexibility and continuous control may well be emphasized. In essence, each manager has o realize that the budget is a tool for their use. Conferences should be held so as to convey the profit plan to each level of management. The manager of each responsibility center obtains an approved profit plan for his center and it becomes the basis for current operations and makes considerable coordinating and controlling effects.

For the effective implementation of profit plan, control system should be established. For the effective application of control system, performance must be measured and reported to management. Execution of the plan is assured through control procedure that must be established so that accomplishment or failure is immediately known. On this basis, actions can be taken to correct or minimize unpleasant and undesirable effects of the plans. Generally the performance reporting system is developed for short term. Short term performance reporting system is essential in tracking the plans into a specified direction on the way to objective fulfillment.

2.2 Budgeting as a Tool of Profit Planning

Budgeting is the process of determining the future course of action expressed into financial terms. A budget is a comprehensive and coordinated plan expressed in financial terms for the operation and resources of an enterprise for some specific period in future. Budgeting, as a tool of profit planning is closely related to the broader system of planning in an organization. Planning involves the specification of the basic objectives that the organization will pursue and fundamental policies that will guide it. In operational terms, it involves the steps of setting objectives, specifying goals, formulating strategies and expressing budgets. A budget is a comprehensive and coordinated plan, expressed in financial term for the operations and resource of the enterprises for some specified period in future (Welsch & et all, 1999:30-31). A budget is a pre-determined statement of management policy during a given period, which provides a standard for comparison with the result actually achieved. A firm without financial goals 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. A budget helps a firm to control its costs by selling guideline for spending money for planned items because they know at all costs will be compared to the budget. A budget helps to motive employees to do a good job. This is particularly true which employees help in setting up the budget. The complete budget for a firm is called the master budget. The master budget consists of main functional budgets. The budget include a sales budget, production budget, a purchase budget, an expenses budget, an equipment purchase budget and a cash budget once all these budgets are completed. The master budget for the entire firm is prepared. So the master budget is composed of many sub budgets.

In summary, the budget involves the statement of plans, the coordination of these plans into well-balanced programs and the constant watching of actual operations to ensure that they are kept in line with the predetermined plans. In this way limits are set on expenditure, standards of performance are established, and forward thinking is made an essential part of the business management care, must be taken, however not to fall into the error of regarding the budget as an end in itself. It is a means to an end. It is not a method of business management but an idea to clear thinking and its fundamental object is it enables considered intention to be substituted for opportunism in management. That will ensure the existence of the business and the fulfillment of management responsibilities.

2.3 Forecasting

Forecasting is making an estimation of the probable future events or sequences of events whether favorable or unfavorable state in volatile environment. Forecasting is an attempt to find the most probable course of events or the best range of probabilities. The forecasting aims at reducing the area of uncertainty that surrounds management decisions making with respect to cost, capital investment and so forth, in many respect the future tends to be more like the past. This good thing may not exist since without same elements of continuing between past, present and future. There would be little possibilities of successful participation. A forecast is not a plan; rather it is a statement and a quantified assessment of future conditions about a particular subject [e.g. Sales Revenue) based on one or more explicit assumptions. A forecast should always state the assumptions upon which it is based. A forecast should be viewed as only one input into development of sales plan. The management of the company may accept, modify, or reject the forecast, other inputs and the management judgment about such related items as sales volume, prices, and sales efforts. For production and financing, it is important to make a distinction between the sales forecast and the sales plan because the internal technical staff should not be expected or permitted to make the fundamental management decision and the judgment implicit in every sales plan. Moreover, the influence of management actions on sales potentials is difficult to quantify for sales forecasting. Therefore, the elements of management actions on sales potentials are difficult to experience and judgment must hold the sales plan. Another reason for identifying sales forecasting as only one step in sales planning that sales forecasts are conditional (Welsch & et all, 1999: 172-173).

Forecasting is an important tool of management that in preparation of budget and is an integral part of decision-making activities of management. Business forecasting refers to the stoical analysis of the part and current movements in the given time series so as to obtain clues above the future pattern of these movements. Management must plan ahead on the basis of a forecast but it must also provide sufficient flexibility to enable the unexpected events to be dealt with. The reasons for forecasting are not so much to predict the future as to be term of what is though likely to happen whilst plan are the embodiment of what is to be attempted so as to meet that future.

In preparing plans for future, the management has to make some predictions about the future shape of things. The father of modern management, Henry Fayol thought the entire plan (of the enterprise) is made up of a series of separate plans called „forecasts’.

Whenever the management plans its business operations and its organizational set-up for the years ahead, it has to take into account the past, the present and prevailing economic, political and social conditions. Forecasting provides a logical basis for determining in advance for the managerial decisions about the material, personnel and requirements, It is, thus, the basis of planning'(Bhusan, 1995:52).

For example, error in sales projections can trigger a serious reaction affecting budget forecast, operating expenses, Cash flows, inventory levels available to each division will affect product, development, and modernization of equipment, hiring of personnel and advertising expenditures. This in turn will influence, if not determined. The level of sales, operating costs and cash flow clearly depict there is a strong interdependence among the different forecasting areas in an organization. For making accuracy in forecasting, various tools are used, econometric, statistical and mathematical. Forecasting is an intelligent work for management because the management has to consider various affecting factors such as past level sales and trends, general economic condition, political and legal events, pricing policy of the company, expected actions of the competitors, etc and their degree of effect in company performance.

2.3.1 Level of Forecasting

Short Range Forecasting

Forecasting is classified according to time range or the effect of the prediction into time frame. The short term forecasting is a prediction extending a maximum of one year into the future. Short term forecasting is generally made by the operational level to support for upper level management forecasting of an organization. While it is difficult to drive examples that fit every situation, some generalizations can be made to indicate the application of short term forecasting. A business firm can adjust more smoothly to an indicated higher or lower volume of sales if plans can be set out reasonably well in advance. The short term forecast of general business conditions often important in deriving a short term sales forecast useful in making internal estimates made by the accounting department in the large enterprises can be integrated with up to date predictions of short term course of general selling and administrative expenses, gross margin, net earnings and the cash position of the enterprises. They reflect the most comprehensive internal and external data. Sales forecasting adds in more effective scheduling of goods in process and inventory requirements. Here short run forecasting provides management more rationally ordered information and sounder base for decision making. Short term forecasting is the genesis for intermediate and long term forecasting. Moreover that the tactical plan is based on the short term forecasting.

Intermediate Forecasting

The forecasting slightly longer period is called for intermediate forecasting. This type of forecasting is generally made in mid level management of an organization. The intermediate forecasting is more useful in business organization. Such forecasts provide basis for management with estimates of requirements in the relatively certain period two to five years in the future. This is one of the least developed areas of prediction. Because the forecast does not have the advantages of surveys of consumer and business intentions nor can be extrapolated long term trends nor is a particularly good position to rank the importance of qualitative factors.

The surveys of business and consumer spending pattern are of vital assistance in the development of short run predictions. Similarly, the extrapolation of long-term historical trends, if subjected to adequate quantitative analysis can serve as a base for estimating economic factors termed five to twenty years outlook may be especially valuable in formulating a capital expenditure program and the related financial plan for research and product development.

The forecasts are forced to rely very heavily upon his/her judgments as a long range isolated from the mass of material facing him/her those elements in the situation that have must significant in shaping the course of economic events in the half decade and this may be difficult indeed. In particular intermediate forecasts, the problem of cycling fluctuation must be considered if they are to be meaningful. The intermediate forecasting is more relevant for the long term forecasting and taking the management decisions for formulating management policies and strategies that need to be developed for the long run existence of an organization.

Long Range Forecasting

Long range forecasting is the last option for the management to forecast the future events or the sequences of the events. This type of forecasting is developed by the top level management. The long range forecasting is entitled to have the strategic decisions made by the executive body of an organization. Forecasts are frequently made in the form of long-range projections that compare an economic situation with a minimum of five years into the future with present circumstances or with those of the relevant past. The purpose of long-range projection is to give a rough picture of future prospects, a picture that has some empirical foundation. Long range forecasting is admittedly difficult in developing expectation about vague or uncertain future conditions. They are always a highly judgmental process. One that depends on personal executive skill and therefore the best judgments should be carried out.

The purpose of long range forecasting is to give an aggregate appraisal has made of the growth potential of the aggregate economy. Consideration may first be given to the size of the company sales by producer or services as well in total (Kulkarni, 1981:380-386). The long range forecasting includes the strategic process of decision making that relates the long term survival of an organization through tradeoff between threats and opportunities emerging in the volatile environment with the organizational capabilities.

2.4 Forecasting and Planning

Forecasting is merely an estimation or statement of the future events. But the planning is the process of determining the future action paths that need to be followed for goal achievement. They are interdependent. Business forecasting is an important element of forward accounting but business forecasting is not the same things as forward accounting. Management must plan ahead on the basis of a forecast but it must also provide sufficient flexibility to enable the unexpected events to be dealt with. The reason for forecasting is not so much to predict the future as to be prepared to meet it when it comes.

A forecast involves a careful appraisal of future in terms of what is thought likely to happen while plans are the embodiment of what is to be attempted so as to meet that future. These plans are reflected in the important budget that budget should be seen in this way as the shadow of plans and not as the shadow of forecasts, nevertheless, the more reliable the forecast the most dependable the plans, so that every possible step should be taken for ensuring accuracy in forecasting. Accuracy in forecasting cause less time and efforts consuming in developing plans as being the first step of the plan. The accurate forecast needs a logical consideration about past trends and scenario. The sufficiency in data makes the forecast more accurate.

2.4.1 The Role of Forecasting in Planning

Forecasting is the first and foremost step of planning. Plans are evolved out from future forecast. Planning describes it as a well thought out set of decisions and actions that when followed ensure that the organization in the future will be affected by its environment in a manner consistent with its goals and objectives. This definition views planning as a coordinative effort in addition to being a future oriented decision-making process. “As basic understanding of planning can help the forecaster in determining what types of forecasts would be most useful and how one might proceed to define them, Planning is as a method of thinking out acts and purpose before hand, Planning occurs as the futurity of present decision (P.F.Ducker).”

Forecasting is the prediction of future situation and event. In forecast, future events will be analyzed by different tools and techniques. For effective forecasting, past data should be accurate and the method used in forecasting is also appropriate and matched with the nature of business objective. The person involve in forecasting must be unbiased and erudite. In this word, market study and research about change in price, advertising, consumer behavior, Income, quality and other related factors are need for good forecasting. Continuity of these researches is essential for effective result. There are different methods of forecasting which is used to foresee the events and situation of enterprises in terms of qualitative and quantitative form with the help of interrelationship but there are no any universal forecasting method for every situation and circumstance.

The methods are broadly classified as: (a) Survey methods (b) Technical methods (c) judgmental methods and (d) statistical methods. These methods include sales force composite, sales division managers composite, trend projection methods, barometric methods, time series analysis, simple and multiple correlation regression analysis and modeling etc. Most manages are not familiar with the theoretical aspects of forecasting and its limitations because they did not have keen understanding about dependent and independent variables. Yet many companies have a forecasting function because its van helps them to cope with an increasing uncertain environment. Management planning involves careful considerations and reliable forecasts can help reduce the uncertainty in planning.

Forecasting provides the maximum help to the planning. In the case of certainty, forecasting does not require much effort whereas in the case of uncertainty forecasting could provide some clues about future possibilities. In any organization the major purpose of forecasting is to reduce uncertainty and minimize ignorance because both the forecasting and planning are concerned with the future. The future naturally surrounds in uncertainty. The uncertainty poses problems to an organization. That is why; the forecasting is necessitated for future planning.

2.5 Budgeting and Budgetary Control: As a Tool of Profit Planning

Budget is a comprehensive and coordinated plan for operations and resources of enterprises expressed in the financial terms for achieving organizational objectives. It is a mechanism to plan future activities to realize the expectations of the firm. It is generally finalized by the top level management in the business concern. It is a continuous process. In the going concern, top management is assumed to have done much strategic planning which has set the stage for

dynamic management planning on a continuing basis. Thus, as each new period of operations, approaches, it usually feels the need to apply this general knowledge of the business and its environment to the particular problems anticipated in the immediate future, what it wants is a budget as detailed, quantitative plan to guide its operation in the near future. The concept of comprehensive budget covers its use in planning, organizing, and controlling all the financial and operational activities of the firm in the forthcoming period. PPC from a "Comprehensive view rather than the narrow, traditional view of budget as a clearly derived set of quantitative schedules prepared by an accountant, following the stereotyped reporting formats used in external financial statement." In the past years, there has also been a tendency to view the budget primarily as a mathematical model for an organization developed by computer programmers. These views completely overlook the three most relevant aspects of the PPC concept. PPC requires major planning decisions by management. It entails pervasive management control activities and PPC recognizes many of the critical behavioral implications through out organizations (Welsch & et all, 1999:30-31).

Lawrence M. Mathews is of the opinion that a budget is both a mechanism full profit planning and a technique of operating cost control.

Budget is an expression of a firm's plan in financial form for a period of time in future. It is an estimate of future needs calculated for a definite period. It anticipates income for a given period and costs as well as expenses for obtaining this income are set or limited with the idea of earning a desired profit or as an aid in controlling losses (Kulkarni, 1981:385).

The system of business budgets, as prevalent in USA has been described us "A pre-determined detailed plan of actions developed and distributed as a guide to current operation and as a partial basis for subsequent performance". On the other hand, budgetary control "is system of controlling costs which includes the preparation of budgets, coordinating the departments, establishing the responsibilities, comparing actual performance with the budgeted and acting upon results to achieve maximum profitability." Thus, it can be said that comprehensive profit planning and control is the recent origin in the field of management but budgeting is the traditional view of acclaiming and presenting financial statement which includes all management function; planning, organizing, directing, leading, decision making, coordinating, and reporting as the basic foundation for effective assessment. Budget is concerned with policy making while budgetary control results from the implementation of the policies. The common objectives of budgetary control are to formulate policies aimed at objective after the consideration of the possible course of events in the future

aimed to provide a means for the constant comparison of actual progress towards these goals against the preconceived result and also provide a standard of the performance. While originally the budget constituted a financial document, it is now concerned with devising a coordinated program of operation, providing an effective means of communication among managerial personnel for the purpose of evaluation. Thus there is an increasing trend towards extending the frontiers of business budgets to include planning, coordinating, and controlling of the entire operation of a business. This has transformed budgets and budgetary control into valuable tool of purposeful management.

2.5.1 Advantages of Budgeting and Budgetary Control

Budget is the formal expression of the enterprises plans and objectives stated in financial terms for a specified period of time. But a budgetary control system has been described as a historical combination of a goal setting machine for increasing an enterprise s profit, and goal achieving machine for facilitating organizational coordination and planning while achieving the budgeted target. Both are essential for a business organization to meet ultimate goal of the same organization. Advantage is the favorable impact of the actions in course of implementing the plans into the specified direction. The advantages of the budgeting and budgetary control/profit planning and control are as follows:

-) Budgeting helps to co-ordinate the activities of all departments of the business.
-) Budgeting develops a sense of responsibility among the employees and assist in assignment of responsibility.
-) A budget assists management to attain the given goal.
-) It helps to maintain control over the production system. Therefore, it increases production efficiency and reduces wastes.
-) It contributes in the set up of the standard costing which can act a complimentary to budgeting.
-) Budgeting provides management with significant knowledge to undertake the remedial action.
-) Budgeting compels management to make an early and timely study of its problems and prepare for changing condition.
-) With the use of budget, cost consciousness develops among the staffs. Subsequently, the loss decreases and work efficiency increases among them.
-) With the installation of budgeting system, employees of the organization become

conscious of the needs to conserve business resources.

-) While preparing budget, opinion is sought from all sections of employees. Their participation in preparation and execution of budget increases morale among them, which in turn contributes maximum to the output.
-) Budgeting helps in determining the policies of the organization.
-) Budgeting acts as a control tool for administration.
-) Budget serves as medium of written communication. It ensures better understanding and harmonious relation between top management, managers and workers.
-) Amount of capital needs can be easily determined with the help of budgeting.
-) The coordination of the main divisions of concern makes for smoother operation and less internal friction, which result in the achievement of the budget goal.
-) The forecast of operations and financial conditions act a goal to "shoot for" and becomes a basis for dynamic action rather than historical cost system's post marlins.
-) The desired earning on a given investment of capital sets up a profit point objective which is the logical basis to be used in working out their estimated sales volume.
-) The purchase of stores is based upon predetermined requirement of raw materials and this helps to prevent stock shortages as well as excessive purchases.
-) Work in process investment is kept to a minimum because of predetermined production requirement.
-) Finished goods inventories are maintained at a level necessary to meet the predetermined schedules of sales.
-) The budget of cash expenditures and cash receipts makes it possible to know the liquidity position of the organization in advance.
-) The centralization of budgetary control over all divisions and departments helps in carrying out a uniform policy without the disadvantages of authoritarian types of business organization.
-) The forecast of sales enables the management to work out the economic balance between plant and machinery, storage, warehouse and inventories.

As goals are set up for being attained and achievements or failures are revealed only with reference to their goals, results can be viewed objectively with minimum of personal prejudice.

2.5.2 Objectives of Budgeting and Budgetary Control

The process of preparing and using budgets to achieve management objectives is called budgeting. More specifically, a comprehensive profit planning and controlling or budgeting is a systematic and formalized approach for stating and communicating the firm's expectations and accomplishing the plans, coordination, and control responsibilities of management in such a way as to maximize the use of given resources if it is a management technique? The following are the objectives of budgeting and budgetary control:

-) To fix the targets and express them in monetary or quantitative term.
-) To state the firm s expectations or goals in clear and formal term to avoid confusion.
-) To communicate expectations to all concerned departments of the firm.
-) To determine the policies for achieving the objectives or targets.
-) To co-ordinate the activities and efforts among different departments.
-) To properly guide the execution of works of different departments and to set the standard of works.
-) To control the performance of different departments in such a way that the use of resources is maximized.
-) To measure the efficiency of different departments and supply information on the basis of which the necessary corrective action can be taken.
-) To provide a detailed plan of action for reducing uncertainty and for the proper direction of individual and group.

The ultimate objective of a budgetary and control program is the measurement and control of profit. Thus, the emphasis has been given on building sound budgets for income and costs so as to discourage deviation which would adversely affect profits.

2.5.3 Limitations of Budgeting

There is nothing in the world without limitation. Limitation refers to the constraint of an effectiveness of the program. Limitation also helps in specifying the scope of the study. The limitations of the budgeting are given below:

(I) Budget is based on estimates

The success or failure of budget depends to a large extent upon the accuracy of basic estimates of forecast. It should always be remembered a certain judgment in such estimate. This aspect of budgeting should always be kept in view while interpreting the results there of, although many statistical techniques are available.

(II) There is danger of rigidity

As budget estimates are quantitative expression of all relevant data, there is tendency to attach some sort of rigidity or finally to them. Budget estimates foresee the business conditions which may be constantly changing and it becomes imperative to change the budget estimates in the light of changed business conditions to make the budget estimate relevant.

(III) Budgeting is not substitute for management

It should always be remembered that budget is not a substitute for management; it is essentially a tool of management. It is totally misconception to think that the introduction of budgeting is alone sufficient to ensure success and to guarantee future profits.

(IV) Budget execution is not automatic

Budget itself will not ensure its proper execution. The budget is dictated by coordinated and collective responsibility. It is very much required that each executive must feel the responsibility and should make efforts to attain the budgeted goals.

(V) Budgeting is a costly affair

The installation of budgeting system is an elaborate process involving too much time and costs. Normally, it is costly that small concerns cannot afford it. Even for a large concern, it is suggested that there should be some correlation between the cost of operating a budgeting system and the benefits derived from it.

(VI) Morale of employees is low

The budget sometimes may be considered as a pressure tactics which can lower the morale of employees.

2.5.4 Essentials of an Effective Budgeting

A success of sound planning and budgeting system is based upon certain prerequisites. The prerequisites represent management attitude, organization structure, and size of business and management merit approaches necessary for the effective and efficient application of the budgeting system. The following are the important essentials of a successful budgeting:

(I) Sound Forecasting

Business forecasts are the foundation of budgets; these forecasts are discussed by the executives and then most profitable combinations of forecasts are selected, they become budgets. The sounder are the forecasts better results would come out of the budgeting system. Hence, forecasts should be based on sheer estimates and out of snap judgments. These should be made by using most scientific and statistical techniques.

(II) An adequate and planned accounting system

There should be proper flow of accurate and timely information in the business which is 'must' for the preparation of budgets. This can be ensured only by having an adequate and planned accounting system.

(III) Efficient organization with definite lines of responsibility

An efficient, adequate and best organization is imperative for budget preparation and its operation. Thus, budgeting system should always be supported by a sound organizational structure, democratic management and clear lines of authority and responsibility. Not only this, there should be a true delegation of authority from top to lower levels of management. This will provide adequate opportunity to make best decisions and also to practice the function of budget preparation, thus, an efficient organization helps not only in the budget preparation but it also plays important role in budget coordination and operation.

(IV) Formation of Budget Committee

It is not a one handed job to prepare the budget. A budget is a well discussed and contemplative subject for the management. A budget committee receives the forecasts and targets from each department as well as periodic reports and finalizes the final acceptable targets in the form of master budget and also approves the departmental budgets. Involvement of all executives' is required in order to make them emotionally committed.

(V) Clearly defined business policies

Policy refers to the basic guideline of business programs. Every budget reflects the business policies formulated by the top management. Budget should always be prepared taking into account the policies set for particular department or function. But for this purpose, policies should be precise and clearly defined as well as far from any ambiguity. Every department executive must have clear knowledge of the impact of business policies on his department, so that he may start his budget exercise in right direction and can also submit constructive suggestions.

(VI) Availability of Statistical Information

Statistical information represents the quantitative term to express the relationship between dependent variables and independent variables. Budgets are always prepared in quantitative terms, it is necessary that sufficient and accurate relevant data should be made available from accounting system alone and therefore they may be processed through statistical techniques.

(VII) Support of Top Management

The ultimate responsibility and authority is in the hand of top management. If a budget

programmer is to be made successful, the sympathy of each member of the management team towards it should start preferably from top. The enthusiasm for budget operation as well as direction it should initiate and come from top. It should be remembered that each member of the management team has a feeling to resist change and may be some sort of resentment against budgets particularly when budgeting is being used as pressure device, therefore, the whole system should enjoy the support and cooperation of top management.

(VIII) Good Reporting System

Reporting system is a whole process of receiving the feedback against implementation of plan or budget. An effective budgeting system also requires the presence of a proper feed back system. As work proceeds in the budget period, actual performance should not only be recorded but it should also be compared with budgeted performance. The variations should be reported promptly and clearly to the respective level of management. The reporting system should be designed in such a way that along with variations, the causes for such variations and person responsible for them are also reported so that management may decide suitable remedy.

(IX) Motivational Approach

Motivation boosts up the enthusiasm and spiritedness. All employees should be strongly and properly motivated toward budgeting system. Human beings by nature do not like any pressure and they resent or even rebel against anything imposed upon them. There is needed to make each staff member feel too much involved in the budgeting system. To meet this end, motivational approach toward budgeting should be followed.

2.6 Types of Budget

Budgets can be classified according to various points of view. The following are the bases of classification of budget.

Classification according to time factor:

On the basis time factor, budgets are broadly classified into two types.

Long-term budgets

They are concerned with planning the operations of a firm over a prospective of five to ten years. They are usually in form of physical quantities. It is also called strategic budget because it is generally formulated by top executive management. It is not a merely of sum total of short term budget.

Short term budget

Generally short term period indicates a one year period. It is also called a tactical plan. But medium term (2-5) is also included in the short term period due to some reasons. So they are usually for a period of one year. It is prepared by middle level management but approved by top level management. They are guided by the long term budget formulated by top level management. They are general and in detail.

On the basis of functions:

The functions of an organization are determined by nature and size of an organization. According to this basis of classification, budgets correspond with a particular function and are integrated with master budget of the business. These are called "functional budgets". The usual functional budgets of a business are:

Sales budget

This is a forecast of total sales classified according to groups of products, salesman and geographical locations.

Selling and distribution cost budget

It is concerned with an estimate of the cost of selling & distribution of goods.

Production budget

It is a forecast based on sales, productive capacity and requirements of inventories.

Production cost budget

This is related to the cost of production including direct material cost, direct labor cost and expenses fixed, variables and semi variable.

2.7 Fundamentals of Profit Planning and Control

In this modern day, it is regarded as a way of management and given more emphasis as a technique of decision making. The major fundamentals of profit planning and control program are:

(I) Managerial Involvement and Commitment

Management highly demands a great involvement with enthusiasm in high caliber. Managerial involvement entails managerial support, confidence, and participation and performance orientation. In order to engage, competently in comprehensive profit planning all level of management, especially top management must understand the nature and characteristics of profit planning and control, be convinced that this particular approach to meaning is preferable for this situation. Is willing to devote the effort required to make it operative? Support the program in all its planning process, performance commitments. A comprehensive

profit planning programme will be successful, if it must have support of each number of management starting with the president. The impetus and directions should come from the very top.

(II) Organizational Adoption to PPC

Organization is a set of responsibilities with its relationship. A profit-planning program must rest upon sound organizational structure for the enterprise and a clear cut designation of authorities and responsibilities. The purpose of organizational structure and the assignment of authority are to establish a framework with in which enterprise objectives may be attained in a coordinated and effective way in a continuing basis. Some time the organization structures are decided into functional sub units each sub unit chiefs are assigned with specific responsibilities. These sub units are known as decision centers or responsibility centers. Some time these responsibility centers are to be in a form of a division or department or a sale district. But in most of the cases these centers are used to be a functional like;

Cost center: A responsibility center for which a manager is responsible for the controllable costs incurred in the sub unit but is not responsible in a financial sense, for profit or investment center is cost center. The lower level and smaller responsibility center tend to be cost centers.

Profit center: A responsibility center for which the manager is responsible for the revenues, costs and profits of the center. Planning focuses on the centers in profit.

Investment center: A responsibility center that goes one-step further than a profit center. In an investment center the manager is responsible for revenue, costs, profit and the amount of resources invested in the assets used by the center. Planning focuses on the return of investment made by the center.

(III) Responsibility Accounting

The accounting system must be built around the responsibility structure of the enterprise. In order to set up profit planning in a sound basis there must be a “responsibility accounting system” that is one tailored first and foremost to the organization responsibilities. Within this primary accounting structure, secondary classifications of costs, revenue and other financial data that are relevant may be utilized in accordance with the needs of enterprises. A responsibility accounting system can be designed and implemented on a relevant basis regardless of the other features of the accounting system, standard costing system, mercantile accounting systems, and direct costing systems and so on. When the accounting system is established on a responsibility basis, the historical data generated become especially pertinent for planning purpose. If the parameter of the cost and revenue used for planning purpose are

not used in accounting system or are not used for costing purpose valuation of the result by comparing it with planned goal will not be effective, so for evaluation purpose and for accounting purpose each of the responsibility center have to prepare chart accounting parameters to be used for planning purpose and have to supply it with full instruction to respective unit when only the main objective of the responsibility accounting can be fulfilled.

(IV) Realistic Expectations

In profit planning and control, management must be realistic and avoid being either unduly conservative or irrationally optimistic. The care with which budget goals are set for such items as sales, production levels, costs, capital expenditures, cash flow and productivity determines the usefulness of a profit-planning program. For profit planning & control purpose, enterprise objectives and specific budget goals should represent realistic expectations. To be realistic expectation, it must be related to their time dimension and external and internal environmental factors that will prevail during that time span. Within these two constraints, realistic expectations should assume a high level of overall efficiency, however the objectives and goals should be attainable. Goals that are set so high that they are practically impossible to attain discourage serious efforts to reach them. Alternatively, goals are set so low that they require no special effort will provide any motivation. Thus enterprise expectation must represent a real challenge to managers defining the level of challenge that should be represented by realistic expectations.

(V) Activity Based Costing

There are various responsibility centers in an organization incorporated with responsibility accounting system. Responsibility accounting systems generally accumulate cost by department and product-costing systems associated costs with units for product or services. Organizations also frequently finalize it is useful to associate costs with activities by decomposing an organization production process into a discrete. Management is in a better position to determine the cost and benefits or continuing the activities. Moreover by systematically identifying the activities throughout the organization, manager can identify unneeded activities. An activity was being done in different places in the company. An activity cost analysis can assist management in elimination of redundant activities eliminating activities that are not cost benefit and achieving greater coordination among the activities application of the exception principle.

A comprehensive profit planning program facilitates control in many ways, underlying this is the measurement of actual performance against planned objectives, goals and standards and

the reporting of that measurement in the form of performance reports. This measurement and reporting system extends to all areas of operation and to all responsibility centers in the enterprise. It involves reporting (i) Actual results (ii) budgeting or planned results (iii) the differences (performance variations) between the two. This type of reporting represents effective applications of the well recognized management exception principle. The exception principle holds that the manager should concentrate primarily on the exceptional or unusual items that appear in daily, weekly and monthly reports thereby leaving sufficient managerial time for overall policy and planning considerations. It is the „out of line items’ that need immediate managerial attention to examine the causes and to take corrective action. The items that are not out of line need not utilize extensive management time. However they should trigger „rewards in appropriate ways. To implement the exception principle, techniques and procedures must be adopted to call the managers attention to the „out of control items. Conventional accounting reports tend to present a mass figure with no basis for calling attention to the unusual or exceptional items.

(VI) Zero Base Budgeting

Under zero base budgeting, every budget is constructed on the premise that every activity in the budget must be justified. Zero base budgeting has been used by many organizations both private organizations and government units. It starts with basic premise that the budget for next year is zero and that every expenditure, old and new, must be justified on the basis of its cost and benefit. The discipline of zero-based budgeting takes a different approach. In fact, a reverse approach to this problem of justifying everything. What it says is begins with where you are and establish a business as usual budget for next year. The same way and the same things you would do if you were not concerned about constraints of total justification.

(VII) Coordination Using PPC

Some management authorities list coordination as a separate function of management. However most views it is an effect that ensures when the managerial functions of planning, organizing, staffing, directing and controlling are accomplished. Coordination is the synchronization of individual actions with the result that each subdivision of effective works toward the common objectives with due regular other subdivisions and with unity of effort. Such a result is often reverted to as goal congruence. It means developing and maintaining the various activities within the enterprise in proper relation-ship to each other. This harmony of effort toward the enterprise objective is one of the central tasks of management because it involves a reconciliation of differences in effort, timing, policies and allocation of resources.

Frequently, a lack of coordination in an enterprise is apparent out of proportion to others or to base of major decisions on the specific needs of the department only, although the decisions may negatively affect other department and their effectiveness.

(VIII) Flexible Application

Plans are set for implementation. Implementation is directed by plans. Effective implementation of the pre-set planning concept requires that the management of enterprise establish the destined time dimensions for certain types of delusion. Invoicing time dimension perspectives in managerial planning, clear-cut distinction should be made between historical consideration and future consideration. The fundamental stress that a profit planning and control programme must not dominate the business and the flexibility in applying the plans must be a forthright policy and all favorable opportunities are sized even though they are not covered by the budget. The profit planning and control programme administered in a sophisticated manner permits greater freedom because all levels of management are brought into the decision making process when plans are developed.

(IX) Individual and Group Recognition

Individual and group recognition, behavioral aspects of human being are of the field of study of the psychologist, educators and businessman and finding was that there can be so many unknown misconception and speculations which has to be considered for an efficient management. A good and dynamic leadership can resolve these problems by integrating all groups for betterment of the organization. This fact also has been well considered under PPC approach and a focus has been given to resolve the behavioral problems.

Another aspect of behavioral recognition is that the individual recognition of the work should be carefully done. The system of recognizing the efficient work if an individual manager should be done and efficient one should be rewarded. Because of the dignity of an individual it is important in the management process. Realizing the truth profit planning entails placing a high degree of responsibility on the individual manager. It entails a procedure for careful evaluation of the planning capabilities of the manager and with a help of performance report and other observation. A careful study of his work should be done. Thus, the profit planning approach establishes a basis for some process in measuring the performance of an individual manager in strict process. It is likely that those with high competence will soon be noticed and those with low competence will be identified.

(X) Full Communication

Communication is a necessary activity in all focus. Managerial communication can be broadly defined as an interchanging of information to bring about a mutual understanding between two or more parties. It may be accomplished by combination of words, symbols, messages and subtleties for understanding that come from working to greater day by day out of two or more individuals. All communication involves a sender message and a receiver. Communication may be through the link that brings together the human element in an enterprise. Management decisions and leadership are accounted by the communications. That means by which behaviors is affected, modified and energized. Too often communication is taken, if granted, consequently information follows are inadequate. There must be three primary information flow system in the entity, downward, upward and through the organization.

(XI) Follow up

Follow up is the adoption of a procedure in pursuit of objectives. Fundamental holds that both good and sub-standard performance should be carefully investigated. In the case of sub-standard performance, to lead in a constructive manner, an immediate corrective action should be initiated. In the case of outstanding performance, it should be recognized and provided for a transfer of knowledge to similar operation to provide a basis for better planning and control in the future.

2.8 Components of Comprehensive Profit Planning and Control Program

A resulting programme includes disparate components of eclectic nature. Likewise, a PPC programme includes more than the traditional idea of a periodic or master budget. Rather it encompasses the application of number of related management concepts through a variety of approaches, techniques, and sequential steps. The major components of comprehensive profit planning and control program are:

(I) Identification and evaluation of external variables

The organization is run in an open business system. So they are affected by eclectic external variables. The variable identification phase of the PP process focuses on (a) identifying and (b) evaluating the effects of the external variables. Identification also involves separate consideration of variables that are non controllable and these that are controllable. This means that management planning must focus on now to manipulate the controllable variables. Moreover, there is managerial planning of how to work- with the non-controllable variables.

By relevant variables we mean those that will have a direct and significant impact on the enterprise. Analysis and evaluation of the environmental variables must be a continuing concern of management. This activity should involve all executive managers who in turn should expect various staff grace about provided data and recommendation. A particularly significant phase of this analysis includes an evaluation of the present strengths and weaknesses of the enterprise.

(II) Development of broad objectives of the organization

Mostly business organization s activities are dictated by external variables. Development of broad policies and objectives are based on external variables. Development of the broad objectives of the enterprise is a responsibility of executive management. Based on a realistic evaluation of the relevant variables and an assessment of the strengths and weaknesses of the organization, executive management can specify or restate this phase of the profit planning and control process. The statement of broad objectives should express vision, mission and ethical character of the enterprise. Its purpose is to provide enterprise s future course path and identify definitions.

(III) Development of specific goals for the enterprises

After defining the vision, mission and ethical characteristics, the “Goal setting phase” of the PP process is to bring the statement of broad objectives into sharper focus and move from the realm of general information to more specific planning information. It provides both narrative and quantitative goals that are definite and measurable. Their goals should be developed by executive management as the second component of the substantive plan for the upcoming budget year. Executive management should exercise leadership in this planning phase so that there will be a realistically and clearly articulated framework with in which operations will be conducted toward common goals. Moreover the specific goals provide a basis for performance management. These broad, but specific, goals must be developed for both the strategic long range plans and tactical short range plans. Thus statement of specific enterprise goals should define such operational goals as expansion or contraction of product and service lines, growth trends, production goals and financial goals. In large measure, they are quantified and specified for each major sub division of the enterprise.

(IV) Development and evaluation of comprehensive strategies

The comprehensive strategies includes broad plans, programs and tactics to achieve the company long term objectives based on company strengths and core competencies with surpassing to the external threats and challenges. A particular strategy may be short or long

term. Here are some actual examples of basic strategies to increase long-term market penetration by using technology to develop new products and improve current products to emphasize product quality and price for the “top” of the market.

The company will not enter foreign markets in the foreseeable future without quality and price competition. The purpose of developing and disseminating enterprise strategies is to find the best alternatives for attaining the planned broad objectives and specific goals. Strategies focus on „now therefore, they outline a plan of action for the enterprise. Executive management must be creative and directly related on going strategies in harmony with the relevant variables in which management must focus on identification of the critical areas that influence the long-range success of the enterprise.

(V) Preparation and evaluation of project plans

Preparation and evaluation of the project s proposals includes the feasibilities and implementabilites of the project s plans on the basis of extensive investigation of the external and internal variables. The internal environment should be conducive to the submission of project proposals from any source within the enterprise on a continuing basis. As a result, higher levels of management normally would expect to be involved in the development and evaluation of project plans at various intervals throughout the year. Consistent with this approach during the formal planning cycle, management must evaluate and decide upon the stations to be planned for each project and to select those projects to be initiated during time dimensions covered by the strategic and tactical profit plans. Preparation and evaluation of current and future project plans, however, are essential on a formal basis as a part of the profit planning activities.

(VI) Executive management planning instruction

The phase involves communication of the substantive plan to middle and lower management level. It explains the broad objectives, enterprises goals, enterprises strategies and any other executive management instructions needed to develop the strategic and tactical profit plans. The executive planning instructions issued by top management, communicate the planning foundation that is necessary for the participation of all levels of management in the development of the strategic and tactical profit plans for the coming budget year. Consequently, at this point in the planning process, the foundation has been established to articulate the board and specific objectives of the enterprise and the strategies facilitate their attainment.

(VII) Development & approval of strategic & tactical profit plans

When the managers of the various responsibility centers in the enterprise receive the executive management planning instructions and the project plans they can begin intensive activities to develop their respective strategic and tactical profit plans. The strategic long range profit plan and the tactical short range profit plan are usually developed concurrently that executive management or the financial executive will develop the strategic and tactical profit plans. The approach is seldom advisable because it denies full participation in the planning process of middle managers. Lack of participation can cause unfavorable behavioral effects. Assuming participatory planning and receipt of the executive management instructions, the manager of each responsibility center will immediately initiate activities, management instructions, and the manager of each within his or her responsibility center to develop a strategic Long range profit plan (say five years) should be harmonized with tactical short range profit plan (one year). As these two profit plans are being completed the approval process must be initiated. This process involves approval, disapproval or revision by executive management based on their presentation and justification by managers of the responsibility centers to the next higher level of authority.

(VIII) Implementation of Profit Plan

Implementation of management plans that have been developed and approved in the planning process involves the management function of directing subordinates in the accomplishment of enterprise objective and goals. Communication is an especially important aspect of direction. However a comprehensive profit-planning program may aid substantially in the accomplishment of these functions, plans, strategies and polices developed through meaningful participation along the lines described in course if profit planning establishes foundation for effective communications.

2.9 Merits of Profit Planning and Control

It forces early consideration of the basic policies. It requires adequate and sound organization structure that is there must be a definite assignment of responsibilities for each function of the enterprise. It compels all members of management from the top to down to participate in the establishment of goals and plans. It compels departmental managers to make plans in harmony with the plans of other departments and the entire enterprise. It requires the management of put down in figures what is necessary for satisfactory performance. It requires adequate and appropriate historical accounting data. It compels management to plan for the cost in economical use of the labor, material and capital. It instills at levels of management for

timely, careful and adequate consideration of the relevant factors before reaching important decisions. It reduces cost by increasing the span of control because fewer supervisors are needed. It gets executives free from many day-to-day internal problems through predetermined policies and clear-cut authority relationship. It thereby provides more executive time for planning and creative thinking.

It tends to remove the cloud of uncertainty that exists in many organizations especially among lower levels of management relative to basic policies and enterprise objectives. It pinpoints efficiency and inefficiency. It promotes understanding of management for their workers problems. It forces management to give adequate attention to the effect of general business conditions. It also forces a periodic bank credit; banks commonly require a projection of future operations and cash flows to support huge loans. It checks progress or lack of progress toward the objectives of the enterprise. It forces recognition and corrective action (including rewards). It rewards high performance and seek to correct unfavorable performance. It forces management to consider expected future trends and conditions.

2.10 Basic Assumptions of Profit Planning and Control

Assumption is that premise on which the theories or studies is fundamentally based. The profit planning considers all activities and operations of an organization. The budgets prepared by different departments inside the organization have to be complied or coordinated and it is done by profit planning. So before preparing a profit planning firstly, all the departments have to be compiled quantitative data in the form of budget and that budget is known as comprehensive budgeting or synonymously profit planning.

All activities covered by budgets are related with funds. So the budget has to be expressed in monetary term i.e. in rupees, dollars or pounds etc. A budget is a mechanism to plan for the firms all operations or activities. The two aspects of every operation are revenues and expenses. The budgets must plan for quantitative form of revenues and expenses related to specific operations. Planning should not be done for revenue and expenses only. The plan should be made for carry out the operation. The planning for resources will include planning for assets and sources of funds. Time dimension must be added to a budget. A budget is meaningful only when it is related to a specific time. The budget estimates will be relevant only for some specific period. The budgets estimates must be calculated.

2.11 Limitation or Problems of PPC

The following main limitations are usually given against profit planning and control:

-) It is difficult, if not impossible, to estimate revenues and expenses in our company realistically.
-) Our management has not interest in all the estimate and schedules.
-) Our strictly system is better and works well.
-) It is not realistic to write out and distribute our goals, policies and guidelines to all the supervisors.
-) Budgeting places too great a demand on management time, especially to revise budgets constantly.
-) Too much paper works is required.
-) It takes away management flexibility.
-) It creates all kinds of behavioral problems.
-) It places the management in a strait jacket.
-) It adds level of complexity that is not needed.
-) It is too costly, aside from management time.
-) The managers, supervisors and other employees hate budgets.

2.12 Development of Profit Plan

Profit plans characteristically express the organization s future direction and scope of work. Generally two types of plans are generated. For long-range objectives, strategic profit plans are developed, and for short-range objectives tactical profit plans are developed. The types of budgets or profit plans depend upon the nature of business entity. Generally, for a manufacturing enterprise following plans are developed.

-) Sales plan or Sales budget
-) Production plan or Production budget
-) Material requirement or Material purchase plan or budget
-) Direct labor cost plan or budget
-) Planning of Other expenses
-) Planning of Capital Expenditure or Capital Budgeting
-) Planning of cash flows or Cash Flow Statement
-) Budgeted Income Statement
-) Budgeted Balance Sheet

Each of the above plans is describe as follows:

2.12.1 Sales Budget or Sales Plan

Preparation of sales budget is the first step for the development of profit plan. After having the planning premises of the organization the sales plan is developed. The sales forecasting is a base for sales planning. The strategic and tactical sales plans have four distinct parts (i) management policies and assumption (ii) The planned volume of sales at the planned sales price per unit for each product (iii) The sales promotional plan (advertising and other promotional cost) and (iv) The distribution (selling) expenses plan. The sales budget is the sales master plan for the future period. The sales budget itself is an estimate for three main figures (a) The income that will be earned from sales (b) The cost and expenses of making these sales and (c) The sales surplus the income from the sales will depend on the quantity and the price of the goods which will be sold.

All the other plans and budgets are dependent upon the sales budget. The budget is usually presented both in units and rupees of the sales revenue or sales volume. The preparation of sales plan is based upon the sales forecast. A variety of methods are used to forecast the sales for the planning period. Unless there is a realistic sales plan, practically all other elements of a profit plan will be out of kilter with reality. The sales plan is the foundation for planning in the firm because practically all other enterprise s planning are built on it.

The primary source of cash is sales, the capital additional needed, the amount of expenses to be planned. The manpower requirements, the production level and other important operational aspects depend on the volume of sales. In inventory with the comprehensive profit plan, both strategic long term and tactical short-term sales plans must be developed. Thus one commonly observes a five-year strategic sales plan. Many management decisions commit a large amount of resources involving a life span of many years. Basic strategies and major moves often involve irreversible commitment of resources and long time span. The primary purposes of a sales plan are (i) to reduce uncertainty about future revenues. (ii) to incorporate management judgments and decision into the planning process (iii) to provide necessary information for developing other elements of a comprehensive profit plan (iv) to facilitate management s control of sales activities.

2.12.1.1 Sales Planning and Forecasting

The sales forecasting and sales planning were synonymously used but it is important to make distinction between sales planning and forecasting because they are prepared for different purpose. A forecast is not a plan. They are different but are relative. A forecast is a statement of quantified assessment of future conditions about a particular subject based on one or more

assumptions. Management may accept, reject, or modify the forecast. It is only one input of a comprehensive sales plan. A sales plan incorporates all management decisions that are based on forecast, other inputs and management judgment about such related items as sales volume, price, production and financing. Sales plan is not conditional but forecast is conditional. It is also technical staff function. Sales plan begins when sales forecast ends. Sales forecast is merely a statement of probable event of future but sales plan is an important control device of management.

Strategic and tactical sales plan

For a comprehensive profit plan, both strategic long term and tactical short-term sales plans must be developed. The usual case is a five or ten year s strategic sales plan and one year tactical sales plan. Strategic or long term sales plans usually involve in depth analysis of future market potentials, which was built up from a basic foundation such as population changes, state of economy, industry projections, business cycle and finally company objectives. The long term managerial strategies would affect such areas as long term pricing policy, development of new products and innovations of present products, new directions in marketing efforts, expansion or change in distribution channels and cost patterns. Tactical or short-term sales plan is prepared to plan sales for 12 months for quarterly basis or monthly basis throughout the year. The sales plan is restudied and revised by adding a period in the future and by dropping the period just ended. Thus tactical sales plans are usually subject to review and revision on a quarterly or monthly basis of estimates. The short-term sales plans are usually developed in terms of physical units and sales rupees. The tactical sales plan includes a detailed plan for each major product and for groupings of minor products. Short term plans must also be structured by marketing responsibility for planning and control purpose. Short-term sales plans may be involved in the application of technical analyses; however, managerial judgment plays a large part in their determination. A short-range sales plan should include considerable detail, where as a long range plan should be broad terms. The long term strategic sales plans direct short range tactical plans. The strategic plans are general by year whereas tactical plans are specific for the year.

2.12.1.2 Development of Comprehensive Sales Plan

Comprehensive sales plan development process includes all steps throughout the conclusive sales plan. To develop a comprehensive sales plan the following process should be followed.

-) Develop management guidelines for sales planning
-) Prepare sales forecast

-) Assemble relevant data
-) Manufacturing capacity
-) Sources of raw materials and supplies
-) Availability of key people and labor forces
-) Capital availability
-) Availability of alternatives distribution channels
-) Develop strategic and tactical sales plans
-) Consideration of alternatives
-) Developing pricing policies
-) Developing product line consideration

2.12.2 Production Plan / Budget

Production plan or budget is an important tool of planning, coordination and control in manufacturing organization. The production planning refers the development of policies about efficient production level, use of production facilities and inventory levels. The second step of profit planning and controlling is to confirm to production and inventory policies, volume of outputs that must be manufactured by product and by interim time period are the areas of production planning. The production budget is an estimate of the quantity of goods to be manufactured during the budget period. It is generally expressed in physical unit. In developing production budget, the first step is a stability of policy relative to inventory levels. The next step is to determine the total quantity of each product that is to be manufactured during the budget period. The third step is to schedule this production budget is the initial step in budgeting of manufacturing operation.

To plan production effectively, the manufacturing executive must have or overlap information relative to the manufacturing operations necessary for each product. They must have at hand information relative to the use and capacities of each manufacturing department. The company cost accountants should provide certain historical data essential in planning production quantities and cost. The direct profit planning and control should provide staff assistance when needed. When the production department completes the recommended production volume it should be submitted to the executive committee for appraisal and then to the president for tentative approval prior to its use as a basis for developing the materials, labor and factory overhead budgets. We can determine the production plan volume mathematically as under:

Planned Production Unit = Planned sales volume + Desired ending inventory – Beginning inventory.

Or

Production requirements = Sales volume ± Inventory change.

Production budget includes the production, finished goods inventory; work in process inventory.

To plan production effectively, the manufacturing manager must develop information about the manufacturing operation necessary for each product. The manager should develop information about the uses and output capacities of each manufacturing department. The managers must provide historical data about production quantities, costs and availability of resource. Control should provide staff assistance when needed. When the production manager has completed the production plan it should be given to the executive committee for evaluation and then to the president for tentative approval prior to its use as a basis for developing the direct materials direct labor and factory overhead budgets. Preparing the production plan need support of various managers such as sales manager administrative manager and financial manager.

2.12.3 Material Budget and Material Purchase Plan/Budget

After the sales and production budget has been developed, the next step is to prepare material purchase budget. When the production budget is completed then the requirement of raw materials and components to be used in the process of manufacturing the finished products could be estimated. A purchase budget gives the details for materials purchase to be made in the budget period. Material budget is a coordination of the required raw materials and parts, inventory level of raw materials and parts and level of raw material and part that must be purchased. Raw material budget is prepared after the planned production. The objectives of material budget are:

-) To provide quantitative data for purchase of raw material
-) To provide quantity data to compute marginal cost per unit
-) To establish effective inventory policy
-) To prepare effective cash budget
-) To introduce effective control system on material use
-) To project cost of production

To assure that amount of raw materials will be on there at the time required and to plan for the costs of such materials, it is essential that the tactical short term profit plan which includes (i) detailed budget specifying quantity and cost of materials required, and (ii) a related budget of raw materials purchase. Thus, planning of raw materials usually requires the following four-sub budgets:

(a) Material usage or Consumption Budget and Parts Budget

This budget specifies the planned quantities of each raw material required for planned production. It should specify quantities of each raw material by time by product and by using responsibility. The material consumption budget is determined by mathematically
$$\text{Material Usage} = \text{Planned production} \times \text{standard material required for one unit of output.}$$

(b) Material Purchase Budget

The material purchase budget specifies the quantities and timing of each raw material needed in value. The report or plan for material purchases must be developed. The purchases budget specifies the estimated quantities to be purchased and estimated cost for each raw material and the required delivery dates. It is determined by mathematically

$$\text{Material Purchase} = (\text{Material consumption} + \text{Ending inventory} - \text{Beginning inventory}) \times \text{Cost per unit of raw material.}$$

(c) Materials Inventory Budget

This budget reports the planned level of raw material inventory in terms of quantities and cost. The difference in units between materials budget (a) and the purchased budget (b) is reflected as increases or decrease in the inventory budget.

(d) Cost of Materials Used Budget

This budget reports the estimated cost of the materials planned for the materials budget (a) observes that the materials planned cost of purchases is developed. Material purchase budget are influenced by various inventory policies adopted by the organizations like JIT purchasing policy, stable inventory policy flexible inventory policy and purchase inventory coordination policy. Cost of material used budget is determined by mathematically

$$\text{Cost of Material Used} = \text{Planned consumption units} \times \text{Price per unit of material.}$$

2.12.4 Direct Labour Budget

Direct labour budget is completed with the full support of following three sub budgets:

(a) Direct labour hour budget

This budget specifies the required labour hours for planned production in the planning period in term of hours by months and by products.

(b) Manpower budget

This budget specifies the total manpower required for planned production in planning period.

(c) Direct labour cost budget

This budget specifies the total direct labour cost for planned production by time and by department.

2.12.5 Overhead Budget

2.12. 5.1 Meaning

Overheads are those expenses indirectly related to the production of goods and services. Overhead expenses budget plays important role for organization to accomplish profit planning and control objectives. It is classified by responsibility, designated as controllable and non controllable and estimated with respect to their behavior pattern. There are three broad categories of expenses: factory or manufacturing overhead, selling and distribution expenses and general administrative expenses.

Manager should view expense planning and control as necessary to maintain reasonable expenses level to support the objectives and planned programs of the enterprise. Expenses planning should not be focused on decreasing expenses, but rather on better utilization of limited resources. Viewed in this light, expenses planning and control may cause either decreased or increased expenditures. Expenses planning and control should focus on relationship between expenditures and the 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.

2.12.5.2 Types of Overhead

Knowledge of cost behavior that is the response of cost to different volumes of output is essential in cost planning and control entire enterprise or in the context of a specific responsibility center. There are three distinct categories of expenses when they are viewed in relation to change in output are:

(i) Fixed Expenses

Fixed costs are those expenses that are constant in total, regardless of change in volume of output. It remains unchanged up to relevant range of output and in relation to a given set of conditions. It is also called periodic cost. The examples of fixed expenses are salaries, property taxes, insurance, depreciation, rent etc.

(ii) Variable Expenses

Variable expenses are the costs that tend to vary in direct proportion to the changes in production, sales activities or some other measures of volume of activity. Examples of variables expenses are direct materials, direct labor, power usage etc.

(iii) Semi - Variable Expenses

All costs other than fully variable and fixed, which is neither perfectly variable nor fixed in relation to volume changes are semi variable costs. Semi variable cost occupies a large portion of the total cost. It is very important to segregate the cost into fixed and variable to make the expenses budget more accurate as their behavior pattern.

2.12. 5 Manufacturing Overhead Expenses

Manufacturing overhead is that part of total production cost not directly identifiable with specific products or jobs. Manufacturing overhead consists of (1) indirect material, (2) indirect labor (including salaries), and (3) all other miscellaneous factory expenses such as taxes, insurance, depreciation, supplies, utilities and repairs. Manufacturing overhead includes many dissimilar expenses; therefore, it causes problem in the allocation of these costs to products. There are two distinct types of responsibility centers in most manufacturing companies: production and service. Producing centers are those manufacturing departments that work directly on the products manufactured. Service departments do not work on the products directly, but rather they furnish service to the producing departments and to other service departments. Responsibility for the operation of each department should be classified separately in the chart of accounts used by the cost accounting department. To developing the manufacturing overhead budget, the following steps should be taken:

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

2.12.6 Administrative Expenses Budget

Administrative expenses include those expenses other than manufacturing and distribution. They are incurred in the responsibility centers that provide supervision, administration and service to all functions of the enterprise, rather than in the performance of anyone function. Because large portions of administrative expense are fixed rather than variable, the notion

persists that they cannot be controlled. Aside from certain top management salaries, most administrative expenses are determined by management therefore; there is strong tendency to overlook their magnitude and effect on profits. Each administrative expense should be directly identified with a responsibility center, and the center manager should be responsible for planning and controlling the expenses (Welsch & et al, 316).

This fundamental of expense control is especially important for administrative costs because there is often a failure to pinpoint responsibility for expenses of a general nature. For this and other reasons, many companies have found it helpful to apply the fixed variable expense concept to administrative expenses. It is advisable to base budget to administrative expenses on specific plans and programs. Experience, adjusted for anticipated changes in management policy and general economic conditions is helpful because most administrative expenses are fixed, an analysis of the historical record will often provide a sound basis for budgeting them.

2.12.7 Selling and Distribution Expenses Budget

Meaning

Selling and distribution expenses include all costs related to selling, distribution and delivery of products to customer. These expenses are not identified to specific product and hence are not allocated directly to each product. A separate distribution expenses plan should be developed for each responsibility center in the distribution function. Many companies allocate these expenses as a certain percentage out of total expenses. The top marketing executive has the overall responsibility for developing the distribution expenses plan. The manager of each responsibility center should be assigned direct responsibility for that department's distribution expenses plan. Thus the promotion manager should be responsible for developing promotion plan, and the field manager for developing both their marketing plan and distribution expenses budget. These budgets should be detailed by the sales managers should be based on planned volume of activity or output. Usually the activity base chosen is the sales amount in Rs/Dollars.

Carefully planning of such expenses affects the profit potential of the firm. Fundamentally the top marketing executive has the direct responsibility for planning of the optimum economic balance (for profit potential) (1) the sales budgets (2) the advertising budget and (3) the distribution expenses budget. Therefore, profit planning and control views sales, advertising, and distribution expenses as the basic problem rather than as three separate problems. (Ibid 314)

2.12.8 Capital Budgeting

2.12.8.1 Meaning

Capital budgeting is generally concerned with the long term investment decision in the project. The capital expenditure budget expresses the detail plans of management concerning asset additions, improvements, replacements, patents and funds aside for these purposes. Capital additions represent assets purchased the costs of which are applicable to a number of accounting periods in the future. Capital expenditures are investments because they require the commitment of resource today to receive higher economic benefits. The capital expenditure budget is variously referred to as the capital additions budget, plant and equipment construction budget, capital outlay budget, investment budget or plant additions budget. The capital expenditure budget has considerable significance from management planning and control viewpoint.

Top management is constantly faced with the problem of determining the amount of funds to be invested in fixed assets. The basic problem revolves around the necessity to maintain adequate facilities for growth and for meeting customer demand and competition. On the other hand, considerable planning and control are necessary to prevent (i) idle operation capacity (ii) over investment in operating capacity and (iii) investment in assets that will produce a low return on the funds committed. In conclusion, capital expenditure budgeting is a process of planning and controlling of the long term and short term expenditure for expansion, replacement and contraction of fixed assets.

Capital expenditure budget is useful to earn future profit and to reduce costs. In capital expenditure budget, major projects are separately analyzed, planned, approved, rejected, completed and controlled. Therefore, capital expenditure budget is primarily composed of series of identified projects related to specific time dimension. It requires huge investment fund so it is generally prepared by top level management. Thus it is called executive decision making.

2.12.8.2 Importance of Capital Budgeting

The capital budgeting is an important planning and controlling tool of comprehensive profit plan. The capital budgeting is essential to the management for planning and control purposes. The major importance of capital budgeting are as follows:

-) To avoid idle operating capacity
-) To avoid excess capacity
-) To avoid investment in capacity that will earn less than an adequate return as the invested amount
-) Helpful to evaluate alternative expenditure proposal

2.12.8.3 Methods of Measuring the Economic Value of Capital Expenditure

The methods of measuring economic value are as follows:

(I) Simple method or Traditional method

(a) Pay back period

This method computes the number of years required to recover the cash investment from the cash inflows generated from the project. It does not consider the time value of money, nor does it distinguish between alternatives having different economic lives. The payback period should be computed for the capital expenditure decision of lower entrant of pay back period. The pay back period method is as a rough test to determine whether further investigation is warranted it is generally useful for (i) precision is not crucial (ii) a large number of proposals are to be screened on a preliminary basis (iii) cash and credit are critical and (iv) the risk is high to the future potentials beyond the pay back period. The shorter the pay back period is to be selected for capital expenditure decision in mutually exclusive project. It is computed net cash investment divided by annual cash flow in case of even cash flow i.e. Pay back period = net cash investment / annual cash flow after tax

When uneven cash flow exists, the following formula is used.

$$\text{Pay back period} = \text{Minimum year to recover} + \frac{\text{Amount needed to recover}}{\text{Cash flow in the year}}$$

Where,

$$\text{Amount needed to recover} = \text{Net cash outlay} - \text{Cumulative cash up to minimum year.}$$

(b) Accounting rate return (ARR)

The average rate of return on total investment method is also known as accounting rate of return method. It is based upon accounting information. There are number of alternatives method for calculating the ARR. One of these method is based only on actual revenues and cash cost. ARR on investment is the percentage of annual net return after taxes to the initial investment. We have to select the project having higher average rate of return and vice versa. It is determined average return divided by initial cash investment or average investment. According to ARR the higher return project is to be selected for investment decision which gives higher return against investment. It is mathematically denoted by

$$\text{ARR} = \text{Average return} / \text{Average investment}$$

(II) Discounting cash flow method

(a) Net present value

The net present value method is a discounted cash flow approach to evaluate the expenditure or investment alternatives. This method requires the selection of a minimum desired or target rate of return for discounting purpose. The cash flows are discounted at this rate of return for

the periods involved. The cash flows are determined by adding back depreciation in after tax profit in future. The same cash flows are discounted by minimum rate of return. The sum of the present values of the outflows is compared with the sum of the present values of inflows, if the difference is favorable to the inflows, the project will earn more than the minimum rate of return. Alternatively if the difference is unfavorable to the inflows, the project will not earn the minimum rate. In the same way, if the net present value of the project is positive, the investment is profitable. Therefore we should accept the project. In case of more than one alternative we have accept the project that project which has more net present value. If the net present value is negative, the project is to be rejected in case of independent project. In case of negative net present value of mutually exclusive projects, the project with lower value is to be selected. It has the advantages of including all future returns and considers time value of money trading off minimum required rate of return. It is mathematically expressed in following way;

NPV = TPV (Total present value of future cash flows) – NCO (Total initial cash outlay).

(b) Internal rate of return (IRR)

The IRR is the rate that will discount all the future net cash flows so that their discounted sum will exactly equal to the initial investment. In contrast to the preceding method this method determines the discounting rate of return that proposal will have to generate, instead of selecting a minimum rate of return (10 percent in the preceding situation) we must find the exact rate that will discount the outflows so that discounted sum of cash inflows will equal the outflow. It is an important method of evaluating capital expenditure decision. The project should be accepted, if the IRR is more than the cost of capital. If the IRR is less than the cost of capital in case not mutually exclusive project, the project should be discarded. In case of mutually exclusive project, the higher IRR is selected for investment decision. It has the same advantage of considering time value of money as in NPV method.

The calculation of IRR is slightly difficult and time consuming. The cash flows may be even or uneven that determines the difficulty and the consumption of time. The IRR is calculated mathematically as follows:

$$\text{IRR} = \text{LR} + \frac{\text{TPV at LR} - \text{NCO}}{\text{TPV at LR} - \text{TPV at HR}} (\text{HR} - \text{LR})$$

Where,

LR = Lower rate

HR	=	Higher rate
TPVat LR	=	Total present value at lower rate
TPVat HR	=	Total present value at higher rate

(c) Profitability Index (PI)

The profitability index or cost benefit ratio is a time-adjusted capital budgeting technique. The PI approach measures the present value of return per rupee invested. PI is determined present value of cash inflows by present value of cash outflows. The selection criterion of PI is the higher than 1 as PI. It denotes the inflows can cover the outflows with time value consideration. Mathematically it is presented as follow:

$$PI = \frac{TPV}{NCO}$$

2.12.9 Planning of Cash Flows

Cash is a means of exchange for goods and services that gives value in all transactions. The business deals are ultimately converted into monetary value that is generally provided by cash. So it is in utmost position in the profit planning and control. A cash budget shows the planned cash inflows, outflows and ending position by interim periods for specific time span. Most companies should develop both long term and short term plans about their cash flows. The short term cash budget is generally included in the annual profit plan in various forms of revenues and expenses. A cash budget basically includes two parts. (i)the planned cash receipts and (ii) the planned cash disbursements.

Planning of cash inflows and out flows gives the planned beginning and ending cash position for the budget period. Planning the cash inflows and out flows will indicate (i) the need for financing probably 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 the sales plan, the accounts receivable, the expense budgets and the capital expenditures budgets.

2.12.9.1 The Primary Purpose of Cash Budget

The primary purpose of cash budget is to give the probable cash position at the end of each period as a result of planned operations. The other purposes of preparing cash budget are:

-) To identify cash excesses or shortages by time periods.
-) To establish the need for financing or the availability of idle cash for investment.
-) Coordinate cash with (a) total working capital b) sales revenue (c) expenses (d) investments and (e) liabilities.

Preparation of the cash budget should be the responsibility of the company treasurer or the cash budget is based almost exclusively on the other budget therefore, the treasurer most works closely with the managers whose decisions may directly affect cash flows.

2.12.9.2 Techniques for Improving Cash Flow

Improving cash flow basically involves increasing the amount of callable cash on a day to day basis to accomplish these objectives. The management should focus (a) the cash collection process (b) the cash payment process (C) the investment policies. A number of methods have been employed to speed up the collection process of cash and maximize available cash. These methods are designed to do one or all of the following:

-) Speed the mailing time of payment from customers to the firm.
-) Reduce the time during which payments received by the month remain uncollected funds and
-) Speed the movement of funds to disbursement banks.

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

-) Review the data of sale of goods and services on credit to the mailing of invoices, the first billing if the 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 between the date that customers pay by check and the date that the cash is available for use in the company s bank account.
-) On the other hand, 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 early.
-) Make all payments by check preferably on Friday.
-) Take all cash discounts allowed for early payment.
-) Establish a policy of no cash advances.
-) Establish the policies and payments process to minimize the possibility of fraudulent
-) payments by company employees.

2.12.10 Budgeted Income Statement

All of the operating budgets are compiled into planned income statement. The operating budgets are divided into two parts of revenue budget and expenses budgets. It tells about the

anticipated operation goals in monetary form. It gives profitable operation of revenue against expenses in the forth coming period. After it has been prepared, it stands as a benchmark against which subsequent company performance can be measured. It gives the ends of the company by time period, by product, by territory. The income statement will be complete after addition of interest expenses, which is computed after the cash budget, has been prepared. It can be developed by time period, by territory and by product by assembling relevant budget amount from schedules already developed.

2.12.11 Budgeted Balance Sheet

All the budgets are prerequisites for the balance sheet. The budgets end with balance sheet. The balance sheet is the final document in the master budget and even in financial record keeping. The balance sheet shows the final or ending balance of all account titles. So it can be said a list of the remainder balance of all assets, liabilities and equities. The budgeted balance sheet is developed by beginning with the current balance sheet data and by adjusting it for the data contained in the other budgets. It shows the financial position of the company in the forth coming period like current assets against current liabilities, inventory position, investment in fixed assets, bonds and securities, provisions, and retained earning. It is a compact form of all budgeting ends.

2.13 Flexible Budget

2.13.1 Meaning

The budget in which the costs are specified according to the nature such as fixed, variable, and semi fixed or variable to develop the profit plan is called the flexible expenses budget. Flexible budget directly relate to expenses. The fundamental concept of flexible budget for expenses is that all expenses are incurred because of combination of time and output or activity. This budget is the complementary to the tactical profit plan. The process of flexible budget is used to provide expenses plans for the tactical profit plan and to prepare expenses plans adjusted to actual output for comparison with actual expense in a periodic performance reports. Flexible budget are also called variable, dynamic, activity and output, adjusted expenses budget.

2.13.2 Features of Flexible Budget

The following are the main features of flexible budgeting.

- a) Expenses or costs must be identified into fixed and variable expenses or costs.
- b) Expenses must be related to output or activity.
- c) Output or activity must be measurable.
- d) Flexible expenses budget for each expenses must be for specified time and relevant range

of output.

- e) For planning and controlling purpose, flexible budget formula must be developed for each expense in each responsibility.

2.13.3 Flexible Budget Format

1. Table Format

This format shows the budget expenses for different levels of output or activity within the relevant range. This format expressing flexible budget is frequently used for industrial purpose. If the firm involves in many more expensive or complex production, we use the table format to specify the cost either fixed or variable or semi variable. This formula is used in large industries or firms to specify the costs.

2. Formula Format

This format provides a formula for each expenses amount in each responsibility center. The formula gives the fixed amount and the variable rate. This format is same as high point and low point method. With the help of this method we can specify the costs. The formula has been given below.

$$Y = a + bx$$

Where, Y = Total cost

a = Fixed cost

b = Variable cost per unit

x = Volume of activity

3. Graphic Format

This format is used for step or nonlinear expenses. Budgeting amounts are read directly from the graph. This method is something useful when step or nonlinear expenses not in a straight line relationship basis.

2.14 Control Process of Profit Plan

Controlling system is designated for tracking the predetermined goals into specified direction to end. Controlling is a constant process of making correction from the deviations found in the planned course comparing actual performance. Basically two types of control devices are used in most of the companies. They are performance report and analysis of budget variances.

2.14.1 Performance Report

Performance is the measurement of implementation level as formerly planned whereas report is a mechanism of the feedback system addressing the performance level. Performance may be good or bad, satisfactory or unsatisfactory and favorable or unfavorable. Performance report is a control mechanism of PPC. For effective control, competent supervision, direct observation,

and proper reporting systems are required. For effective application of control system, the works are to be standardized as per objective required. The standards are measurable, realistic, and achievable.

The actual performance level is first measured and compared with the predetermined standard level. If the performance level meets the preset work standard, the performance is taken as satisfactory and vice versa. Therefore we can say that the performance report is a systematic and continuous process of making evaluation of work and addressing the deviations in planned workload with correction measures. Generally it is done internally. This system can be applied in every sphere of the management. It may be done by external independent experts too. The report should address top level management. The report may be in hours, quantity, cost, and benefits as per the requirement of the management.

2.14.2 Analysis of Variances (Budget Variances)

The difference (deviation) between planned goals and actual results is called variance. Performance reports show such variances, and then the next step comes to analyze such variances to identify the underlying causes behind it, for managerial planning and control process. Variance can be either plus or minus, depending upon whether an actual result is greater or less than standards. Since the standard is a measurement of what a particular result ought to be, any deviation from it can be interpreted as good or bad, favorable or unfavorable to the attainment of the organizations profit goals. Since variances can reflect clearly and correctly the causes for deviations of actual from standard performance. The variance analysis is purposeful. The major purpose of variance analysis is to enable management to measure performance against predetermined norms to seek out the causes for the standard performance and corrective action. There are numerous ways to investigate variance to determine the causes. They are concerned with responsibility center, managers, supervisors and other employees in the particular responsibility center involved. It requires the analysis of the work situation including the flow of work, co-ordination of activities, effectiveness of supervision, and other prevailing circumstances are:

-) Direct observation
-) On the spot investigation by line managers
-) Internal Audits
-) Special Studies
-) Investigation by staff group

) Variance Analysis

Variance analysis involves a mathematical analysis of two sets of data in order to gain insight into the underlying causes of variance. One amount is treated as the base, standard or reference point. Variance analysis has wide application and analysis is made in the following areas:

-) Raw material variance
-) Labor variance
-) Overhead variance
-) Sales variance
-) Profit variance

For analysis the variance, following steps are followed.

-) Setting standards
-) Measurement of performance
-) Finding the variances
-) Comparing and Analyzing variance with actual performance
-) Taking corrective actions

2.15 Review of Related Studies

The review of literature is a crucial aspect of the study. The main purpose of the literature review is to find out what works have been done on the area of the research problem under the study and what has not been done in the field of the research study being undertaken. There are very few researches have been made in the area of profit planning whatever have been made are mostly concentrated to the state owned public enterprises and those are not in depth and detail. An attempt has been made to review some dissertation on profit planning which has been prepared and submitted to the faculty of management in Tribhuvan University. Some related studies made on the area of profit planning and controlling are given below: **Poudel (1996) has conducted a study on "A case study of profit planning of Gorkhkali Rubber Industry Ltd."** This research study was mainly focused on the profit planning practices and effectiveness of profit planning of Gorkhkali Rubber Industry Ltd. This research covered 4 years i.e. from FY 049/50 to 052/53 necessary data were collected both from the primary and secondary sources, the basic objectives of that research was to examine how far the different

functional budgets are being applied as tool for profit planning in business enterprise.

Major objectives

The other of his research were

-) To sketch the trend of profit and loss.
-) To see the GorakhKali rubber industry's profit planning on the basis of overall managerial budgeting.
-) To evaluate the variance between targets and actual performance of the enterprise.
-) To examine the practice and effectiveness of profit planning.

Major findings

Major findings of his research were

-) Inadequate education of relevant internal as well as external market variables
-) Inadequate planning of profit due to lack of skilled planners.
-) Inadequate knowledge of technical know-how.
-) He has conducted that Gorakhkali Rubber Industry Limited does not prepare the long term strategic profit plan and is only involved in tactical profit plan.
-) The objective of the industry is not clear.

Major recommendations

The recommendations made by him were

-) Industry should develop the long term strategic plan for every aspect of its operation.
-) Industry should clearly state its objectives and should have in depth analysis of the industry's strength and weakness.
-) Pricing policy should be revised and cost volume profit relationship should be considered while pricing the products.
-) Effective sales promotion activities should be made to increase the export of the industry.

Bhatta (1998) has conducted a research in the topic "profit planning in public utility concern, a case study of Nepal electricity authority." This research mainly centered with the corporate planning systems and budgeting procedure in public utility concern. Main objective of his research was to highlight the various functional budgets and their related variances of the authority.

Objectives of the research

-) To study the effectiveness of profit planning and control in profitability.

-) To study of profit planning approach used by Nepal Electricity Authority.
-) To study the components of profit planning used by Nepal Electricity Authority.

His research pointed out various findings and recommendations. Some remarkable findings and recommendation are as follows:

Major Findings

-) The authority fails to maintain its periodic performance report systematically.
-) Specific goals and objectives are not conveyed to lower level due to lack of MBO principle of management.
-) Lack of coordination between departments.
-) Overheads are not classified systematically in absence of skilled and purely academic main power in budgeting section.
-) There is lack of responsibility accounting system.

Major recommendations

-) Nepal Electricity Authority (NEA) should improve the formulation and implementation of profit planning system.
-) NEA must restructure its capital structure and should emphasis the internal financing leakage of electricity should be controlled.
-) NEA should develop efficient system of revenue collection.
-) NEA should develop its overheads budget in a well classified and scientific way.

Acharya (2006) has conducted research on the topic of "A Comprehensive study of Herbs Production and Processing Ltd (HPPCL)." The research was focused in the practices of PPC and the tools are effectively practiced or not.

Objectives of the study

-) To study the use of profit planning and control.
-) To show the clear picture of HPPCL s financial position.
-) Budgeting system approach used by HPPCL.

Major findings

-) Budgets are prepared on traditional basis because lack of skilled planners and budgeting experts.
-) HPPCL has no systematic and scientific sales plan. Sales plans are not made by considering all the components of affecting sales.
-) There is a lack of use in inventory policy and technique.

) There is lack of use in labor cost budgets and lack of use of cash budgets. Therefore, in overall the company has no good practices of profit planning and controls (Budgeting). As well as the company is not using the technique of analyzing various performance reports. Therefore company is unable to use the skilled manpower required for the industry.

Major recommendations

-) The organization should develop participatory budgeting system.
-) The organization must hire budgeting expert from external market.
-) The organization should develop effective controlling devices.

Prabesh Karki (2007) has studied on the topic of “Revenue Planning in Service Oriented Company (A Case Study Of Nepal Telecom Company Limited).” The main objective of this study is to search and highlight the role of revenue planning in the performance of NTC. The other objectives of the research are as follows.

Objectives of the study

-) To sketch out the use of revenue planning tools and techniques.
-) To examine the use of planning in managerial short-term and long-term decision-making.
-) To point out shortcoming in sales budgeting and planning.

Major Findings

-) The major findings of the study are as follows:
-) No plan and program has been made about possible consumption of telephone industry.
-) The revenue plan prepared by the branches and sub branches were not taken as reference for preparation of central revenue plan.
-) The Telecom maintains its periodic performance report systematically.
-) NTC has a practice a preparing both strategic long term and tactical short term revenue plan. But the study is mainly focused on tactical short term revenue plan of Telecom.
-) Proper repair and maintenance activities are lacking.
-) Mobile service is better than land line but some times we faced networking problem.
-) NTC has practiced the international accounting standard.

Major Recommendations

Following recommendations were made by him.

-) NTC planners should be properly trained about budgeting revenue planning.

-) NTC should prepare plans and program for consumer and solve network problems.
-) To achieve target growth rate in sales revenue NTC should make realistic forecast.
-) While preparing central budget of NTC, it should take suggestions made by branches and sub-branches.
-) NTC should introduce programme and action plans for the solve network problem and stolen telephone lines and misused of telephone call reduction the loss of technical and non-technical.
-) Price cost volume profit relationship should be considered while formulating the revenue plan.
-) An effective cost control programme is necessary in NTC.

Bandana Prajapati (2008) has conducted research on the topic of “Study of Profit Planning & Control of Dairy Development Corporation, Lainchaur KTM.” She had focused to seek the following Specific objectives

-) To analyze the trend of profit and loss of DDC.
-) To analyze the various functional budgets those are prepared by DDC.
-) To evaluate the variance between budgeted and the actual achievement of the enterprise.
-) To examine the present profit planning premises adapted by DDC.

Major findings

-) Major finding of the research project has been presented below.
-) From the above research interpretation we came to know that DDC had planned only short-term plan i.e. plan for only one year it does not make long term plan for five years.
-) DDC prepares some functional budget like sales and purchase budget, expenses budget etc. These all budgets are prepared on an annual basis. The annual amounts are not divided into the interim period.
-) DDC has not separate planning department and planning experts.
-) The expenditure budget i.e. administrative expenditure budget and selling and distribution expenses budget shows that the actual expenses figure are less than the budgeted one.
-) DDC does not apply CVP analysis. The practice of BEP analysis is also lacking.
-) DDC has not practiced of variance analysis.
-) Collection and processing cost is very high which lead to increment of overall cost of

the corporation and results toward the decrement of profit margin.

Major Recommendations

The major recommendations of the study were

-) DDC should develop its long range and short-range plan. These plans programs, strategies, goals, targets, policies etc should formulate the program and makes responsible and committed to accomplish them.
-) System of periodical performance should be strictly followed to be conscious about poor performance and take corrective actions immediately and timely.
-) DDC must segregate its variable cost and fixed cost.
-) Deviation from budgeted allocation must be analyzed and necessary corrective steps should be taken based on actual sales and production.
-) DDC needs to work out control mechanisms so that corruption can be controlled.

KamaLa Rimal (2008) has conducted research study on the topic of “A Study on Profit Planning and control of Nepal Bangladesh Bank.” The basic objective of this study is to appraise the application of comprehensive PPC system in Bangladesh Bank.

Major objectives

The objectives of the study were

-) To highlight the current profit-planning premises adopted & its effectiveness in NB Bank.
-) To observe NB Bank s Profit planning on the basis of overall managerial budgets developed by the Bank.
-) To analyze the variance of budgeted allocation and actual achievements.
-) To study a growth of the business of the bank over the study period.

Major findings

The major findings of this research study on profit planning of Nepal Bangladesh Bank were as follows:

-) From the data analysis of deposit budget and actual achievements, by coefficient of variance, it is found that, the actual deposits were less variable than the budgeted one.
-) Bank s resources deployment for non-yielding liquid assets (cash and bank balance) increased every year, thus problem appeared in making supportive to meeting liquidity requirements of the bank.
-) Interest expenses amount were the highest among total expenses item of the bank every year.
-) Generally the debt equity ratio of the bank was higher because they mobilized fixed deposit much more times of their capital fund.

From the profitability ratio, it was found that the ROC (Return on capital) was negative and this trend followed the same trend over the study period. This may be due

to higher rate of increase in capital fund than that of the net.

Recommendations

-) On the basis of the study on profit planning of NB bank, the following suggestions were recommended to improve the Profit Planning system of the bank.
-) Bank management should adopt the policy of appropriate authority delegation at all level of management in order to save the valued time of the chief executive officer for other productive use.
-) Employee training at advance level should be given more focus in order to keep the manpower updated with the changing practices and technologies.
-) Bank should analyze its activities with prior planning; there must be budgeting system, which enables it to achieve its objectives.
-) Non performing assets could wreck bank's profitability but while lending to the borrowers proper analysis of the loan proposal must be done which will decrease the chances of bad loan to the bank.

Sujit Kumar Karn (2008) has conducted a research study on the topic of “A Study on Profit Planning Mechanism of Nepal Telecom.” The study had been focused on the sole study of Nepal telecom's profit planning practices. The main objective of this study is to examine the present comprehensive profit planning mechanism applied by NTC and to assess the strengths and weakness of Nepal Telecom.

Objectives of the study

-) The objectives of the study were
-) To analyze the financial position of Nepal Telecom.
-) To analyze target and actual budget of Nepal Telecom.
-) To assess the strengths and weakness of Nepal Telecom

Major Findings

The study had been finished with the major findings drawn after analyses of the available data were

-) There is no systematic sales plan, it clear that the performance of planning section of NTC is not satisfactory and it prepare the sales plan on ad- hoc basis.
-) Budgets are set only on the assumption of management. Budgets are prepared on the basis of historical data. But NTC s actual achievement of sales or revenue is less than budgeted sales or revenue during the study period.
-) Ratio analysis shows good financial position.
-) Correlation between sales revenue and cost value r is found to be positive correlation.

) This means the two variables move in the same direction.

Major Recommendations

The following recommendations were made by him.

) A profitable company like NTC should not hesitate to use the cheaper debt source to magnify the return on equity. So, the management should consider using long-term debt in financing new expansion projects in the future.

) The investment in working capital was not reasonable. So NTC should rearrange its current assets components. The working capital should be made on the basis of service delivered.

) The investment appraisal criteria should be modified to make it more scientific so that it weighs all relevant factors before making further investment decision so that the project does not provided lesser return than cost of loan.

) Periodic financing requirement should be forecasted and planned in advance so that uniformity in financing can be ensured.

) The organization should impart professional management at its top hierarchy.

Kiran Shrestha (2009) has made a thesis on the topic of “Profit Planning and Control in Public Utilities Sector (A Comparative Study on Nepal Water Supply Corporation and Nepal Telecom).”The study has been focused to draw a vital conclusion about both Organization regarding their economic capability, operating efficiency and the financial positions. Both Organizations are large scale public enterprise and have purposeful operation.

Objectives of the study

The primary objective of this study is to assess the application of comprehensive profit planning and control or budgeting system in communication and water sector comparatively with the following specific objectives:

) To analysis the various budget activities adopted by both organization (NT and NWSC).

) To assess the financial performance of both organizations (NT and NWSC).

) To see NT and NWSC,,s Profit planning on the basis of overall managerial budgeting (profit Planning).

) To examine the practice and effectiveness of profit planning in NT and NWSC.

Major findings

Analyzing in details the present practice of profit planning process in NWSC and NTC, this study concludes the following findings:

) NWSC and NTC have not adequately considered controllable and non controllable variables affecting the company. Furthermore, they have no in depth analysis of the

company's strengths and weakness.

-) Nepalese public enterprises lack budgeting experts and skilled planners. Plans are formulated on traditional ad-hoc basis.
-) Cost volume profit relationship has not been considered while developing the sales plans; fixed assets purchase plan and pricing strategy.
-) All the expenses such as manufacturing, administrative, selling and distribution expenses, employee expenses and non administrative expenses are not kept separately and systematically, but in NTC to some extent. All these expenses are combined together.
-) Capital expenditure plans are not adequately prepared in advance.
-) NWSC and NTC have not formulated the policy about financing the cash deficit that may arise in course of operation. Likewise, these companies have no any advance program of utilizing the excess funds that is likely to generate in course of operation.
-) Liquidity position of NTC as current ratio shows is satisfactory. NWSC is not in position to pay the current liabilities at the time requirement.

Major Recommendations

The major recommendations of the study are

-) It seems necessary to develop, implement and improve the process and profit planning in these public enterprises from the very beginning to the end.
-) The goal, objectives, strategies should be carefully communicated to lower level management.
-) Sales forecasting should be made on the realistic ground. Forecasts should include strategic and tactical forecasts that are consistent with the time dimensions used in the comprehensive profit plans.
-) Cost-Benefit Analysis and C-V-P analysis should be taken into consideration while developing sales plan.
-) When developing the tactical profit plan the expenses for each responsibility center should be carefully assessed.
-) Capital expenditures should be planned in advance and discounted cash flow techniques should be applied to evaluate the proposals.
-) Policy to finance the cash deficit and to utilize excess funds should be formulated.

Variance should be categorized as favourable and unfavourable, cause of unfavourable variance should be diagnosed and acted timely and the respective official should be made responsible for any deficiency.

2.15 Research Gap

The research gap is a lacuna of research subject which has not been studied so far. The gap is fulfilled by the present research. There is a gap between the present research and previous researches. Previous researches conducted on profit planning and control covered only the budgeting practices in manufacturing companies. They were organized either in a single company or comparative studies were in between two companies. The findings were mostly in secondary data based. Previous researches were unable to recommend about the particular tools used and why. Thus to full-fill the gap, the current research is organized. The research is based on secondary data of service sector organization. It examines the current practices of profit planning and control tools and performance history for prescribed period. It has disclosed the reasons about not practices the PPC tools and why. The secondary data were used and analyzed the current practices of profit planning and control tools. As well as recommendations are provided to concern level how the PPC practice are made more useful.

CHAPTER –III

RESEARCH METHODOLOGY

The searching once does not give the consummate solution for a particular subject and the mankind is an inquisitive creature. All these call for research work. Research refers to looking for something more out of systematic, organized, data based, scientific and critical inquiry or investigation into a specific problem. "Research is a systematic and organized effort to investigate a specific problem that needs a solution," (Sekaran 1992).

This process of investigation involves a series of well-thought-out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answers to the problem. Thus, the entire process by which we attempt to solve problems or search the answers to the questions is called research (Wolf and Panta, 2004:4). The major objectives of this research are to analyze the profit planning practice in Nepal Telecom, its effectiveness, use of short term and long term profit planning tools, to evaluate the variance in budgeted and actual result and find out financial strength and weakness, this research work has followed the following research methodology:

3.1 Research Design

"Research design is the plan structure and strategy of investigation conceived so as to obtain answer to research questions and to control variance. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing the hypothesis and their operational implication to the final analysis of data"(Kothari. C.R 1990:390).

The research design is an outline, the scheme, the paradigm of the operation of the variables. The paradigm relates the structural relationship of variables and their juxtaposition. To get the answers to research problems and control variance, in the present research work, the researcher has followed descriptive research design. The descriptive research studies involve the systematic collection and presentation of data to give a clear picture of a particular situation or event. It is also called a fact finding approach of research study. For this research work, most of the secondary source data has been used except some interviewed answers.

Some of the financial tools along with statistical tools have been applied to examine facts and descriptive technique has been adopted.

Research variables are the important portions for research design and research study which are used for analysis of all the available information and data. For this research study; sales, different revenue budgets, expense budgets, profit & Loss A/c, items of balance sheet and compilation of capital budget are the main research variables. These are the variables of a complete budgeting or comprehensive budgeting. The study is closely related with the various functional budgets and other accounting statements as well as the actual result of the budgets.

3.2 Population and Sample

Population refers to the entire group of people, events or things of interest that the researcher wishes to investigate. Like all the public enterprises partly or fully owned by government is the population of this study. The current study is only related with the profit planning of Nepal Telecom as Sample Company. The sample is defined as a collection of items or elements from a population or universe. Hence a sample is only a portion or subset of the population. Sample is an essential part of research study so sampling design requires the consideration of selecting sampling items, sampling frame and sampling size. The present study is undertaken for a period of past 7 years from fiscal year 2059/060 to 2065/066 for the purpose of the analysis of tactical profit plan and long term budget as far as available. For the analysis, 2059/60 is as based year. Both budgeted data and actual results are taken from the same fiscal year 2059/60 to conclude the comparative result.

3.3 Sources of Data

The valid and adequate data play an important role in making the research study meaningful and conclusive to generalize the findings. For this purpose, the data source taken should be relative to nature of the study; qualitative or quantitative. Basically there are two types of data sources. They are primary and secondary. For primary data, direct interview, telephonic interview, observation, questionnaire and on job study method are used they are not been previously assimilated for any other projects. On the other hand, secondary data is the information that had been already used by others. Generally they are collected from the published sources or already used by others.

As for effective research work, data play very important role, to the last extent all the research data for this research work are taken from its origin. For this research work all the quantitative data are collected directly from NT. Besides these data are collected from the persons directly

or indirectly related with NT, secondary data have been collected from the published annual reports of NT, budget books and website of Nepal telecom. Similarly, other necessary data have been collected from the publication of Ministry of Finance, Central Bureau of Statistics, National Planning Commission and related publications.

3.4 Data Collection Technique

There are different data collection procedures for the research work. For this study different techniques and procedures are adopted to collect necessary and authentic data and information. Since the study is related with budgeting practice most of data are collected from secondary source. The secondary data collection methods are from documents and records; organizational records, notice and publications, websites and internets, committee records, books and journals, newspaper and research reports as written documents. We can also use the CD Rooms, Films, Taped interviews, TV and radio recording and picture and drawings. As secondary source of data, published functional budgets and financial statements are taken. They are collected directly from account department, financial planning and budgeting department of NT human resource department, communication department, networking and marketing department.

The primary data that they are not assembled previously or they are in original state. There are several ways of gathering primary data. They are questionnaire, observation and interview methods. When the secondary data cannot fully support the study the researcher have to go for primary data collection procedure. Generally the qualitative data are collected through primary sources.

3.5 Data Analysis Tools

For the research work all the data are the input for research process. The data are in raw form up to collection stage. They need to be transformed into processed and understandable form. For this purpose the raw data are to be analyzed. The analysis of data consists of organizing, tabulating, performing statistical analysis and drawing references. And systematic processing requires an appropriate analytical tool. For processing data, different analytical tool have been used. One should first accumulate, arrange, synthesize and present all the data in appropriate table and formats in systematic manner before using various analytical tools. The data analysis follows a process of getting data ready for use(editing data, coding data, categorizing data, creating data file, programming), data analysis(goodness of data), hypothesis testing, interpretation of results, discussion and research questions answered. For this research study

these analytical tools are used:

3.5.1 Statistical Tools

Statistical analysis makes the data informative, readable, understandable, meaningful and conclusive in numeric form. It includes mean, standard deviation, Co-efficient of variance, correlation, regression, standard error, trend analysis, percentage diagram, graphical diagram. They can talk about the relations and differences of variables.

3.5.2 Financial Tools

Financial tools are basically used in making business decisions. They establish the financial relationship between business variables in mathematical pattern. It includes Ratio analysis, CVP Analysis, Flexible budgeting, and Variance analysis, Capital budgeting technique etc.

3.6 Research Variables

Research studies are often concerned with variables and their relationship. Variables are those matters or objects they are assigned numbers or values vary in time interval due to various affecting factors. Variables are broadly categorized into two parts; dependent and independent. Dependent variables vary with the change in other variables (independent variables). The researcher purpose is to study, analyze, and predict the variability in dependent variable. On the other hand, independent variables are not influenced by any other variables. Independent variables are used as the basis of prediction and dependent variable is the variable that is being predicted.

Choosing the research variable is a great task because the right choice reduces the cost and saves time. Sales, various telephone services line, capacity utilization, profit and loss, total assets, profit margin, total capital employed, capital expenditure, cash flows and manpower expenditures relating to long term and short term periods of NT are the research variables of the study.

CHAPTER – IV

PRESENTATION AND ANALYSIS OF DATA

4.1. Presentation and Analysis of Financial Data

The financial analysis is concerned with the preparing financial statements for the periodical review of the activities designated by the organization and results achieved by the organization to identify the firm's financial position with respect to its strengths and weaknesses. Generally the profitability represents the result of the organization. The main objective of this study is to examine the profitability of NTC over the years. To meet this objective, it is essential to present, analyze and interpret data contained in annual reports of NTC. The annual reports include balance sheet, cash flow statement and Income statement along with their supporting schedules.

Analysis of data is concerned with transforming the unprocessed data to an understandable presentation whereas an interpretation of data is an attempt to find - out the implications and the significance of past activities/decisions in the light of present position and future prospect and to make suggestions for future action. Analysis and interpretation are closely connected terms because without an analysis, interpretation is not possible and lack of interpretation makes analysis useless or analysis of data makes the raw data ready to speak whereas interpretation makes the data spoken. These two are supplement to each other. Analysis involves the compilation, editing, coding, classification and tabulation of data as per its relative significance and examination of data using different tools. On the other hand, interpretation means making explanation and drawing inferences about the changes or variations in the phenomena about the outcome of analysis. In this study, the data are presented, analyzed and interpreted on the basis of research questions.

The presentation of data requires the tabular form of data. The table summarizes the key economic figures of NTC for the study period. The analysis followed would help analyze the strengths and weaknesses of the corporation and causes of the problems/weaknesses so that some recommendations could be made. The different types of tools and techniques that have been used to analyze the data are as follows:

- **Variance Analysis**
- **Ratio Analysis**
- **Trend Analysis**
- **Correlation/Regression Analysis**
- **Graphic/Diagram/Chart Presentation**

4.2 Sales /Revenue Budget of NTC

Sales budget is the genesis of all budgets. Sales budget is known as the primary step in developing the overall budget procedure. A sale is the primary source of cash and all other functional budgets are prepared on the basis of sales budget. The capital additions needed amount of expenses to be planned, the manpower requirements, materials, cash, production volume etc are based on sales budget. The sales plan is that step which opens the door of financial plan. It is an estimation of sales in uncertain nature of future period. When actual sales are not far from the planned sales then it is known as good plan. The efficiency of planner or planning expert can be evaluated from the comparison between actual and budgeted sales. Nepal telecommunication company (NTC) Ltd has practice of preparing sales budget/revenue plan for short term and long term which is known as tactical and strategic load forecast. Sales budget is prepared by NTC according to the nature of customers; customers are categorized like government, business organization, resident service, non resident service and others; sales price of telephone link, government policy, availability of materials, availability of personnel, internal variables such as working condition of corporation, capacity of machine and equipment, financial strength etc. The overall responsibility of preparing sales budget is upon Planning Directorate of NTC maintaining coordination with Revenue Department. The sales budget/revenue budget is prepared by planning directorate. Like as other manufacturing concern, it has no distribution channels. Customers contact themselves to get telephone service. Now the attempt begins to present the NTCs previous sales performance and their achievement to know about the sales/ revenue trend of past and to forecast the possible future trend of the NTC. The following table presents the budgeted sales and actual sales achievement rupees in million from the fiscal year 2059/2060 to the fiscal year 2066/2067..

Table 4.1

Budgeted Sales and Actual Sales (Rs. in million) and their Variances

Fiscal Year	Budgeted Sales	Actual Sales	Variance		Remarks
			Rs	%	
2059/060	7,316.55	7,669.28	352.73	4.82	F(favourable)
2060/061	8,819.059	8,855.035	35.976	0.41	F
2061/062	9,254.58	9,194.29	(60.29)	(0.65)	U(unfavourable)
2062/063	9,146.68	11,058.92	1912.24	20.91	F
2063/064	11,323.14	14,751.62	3428.48	30.28	F
2064/065	17,972.99	17,889.31	(83.68)	(0.46)	U
2065/066	22,736.04	22,257.71	(478.33)	(2.10)	U
2066/067	28,858.17	27,221.06	(1637.11)	(5.67)	U
Average Achievement of Sales				105.94	

Source: Financial Planning and Management Department and Annual Report of NTC

Above table shows that the actual sales achievement of NTC is highly satisfactory and most are above the target sales. The actual sales or revenue achievement in FY 2061/062 and 2066/067 is slightly below the target sales but nominal as per budgeting practice. The sales or revenue achievement in FY 2062/063 and 2063/064 are highly recommendable. It shows that the efficiency of management for prepared planning. The actual sales achievement during the study period is 105.94% which is over the average budgeted sales of 100%. The budgeted sales and actual sales have been constituted by operating and non operating revenue. Operating revenue is collected from the services delivered by NTC through PSTN, CDMA, GSM and inter-administration sharing. Two figures are taken after decimal as approximate value.

4.2.1 Statistical Presentation of Budgeted and Actual Sales (Rs 000000)

In order to find out the nature of variability of sales budget and actual sales of different year, we have to calculate the arithmetic mean, standard deviation and co-efficient of variation of the budgeted sales and actual sales figure of NTC. The detail calculations of these statistical tools are presented in summarizing the result after calculating.

Table 4.2

Particulars	Budgeted	Actual	Difference (%)
Mean	14428.40	14862.15	3.01
S.D.	7383.68	6624.05	(10.29)
C.V.	51.17 %	44.57 %	(6.6)

Table 4.2 shows the result of calculated statistical tools. According to the calculation mean of actual sales is greater than budgeted sales i.e. 14862.15 (in million) and 14428.40 (in million) respectively. Coefficient of variation of actual sales is 44.57% and coefficient of variation of budgeted sales is 51.17%. It indicates that actual sales more consistent or significant than budgeted sales during the study period. The average actual sale is 105.94 percent in comparison to average budgeted sales. The table shows that the revenue plan is more realistic and calculated.

4.2.2 Trend Analysis

Trend analysis represents the momentum and direction of data over the time periods into linear form. Trend analysis is used to estimate the value of one variable for a particular time period by using least square method according to independent variable's degree of effect i e time factor. It tests the goodness of fit. The following straight line trend equation is used to

test the goodness of fit.

$$Y = \text{Rs } 14862.15 + \text{Rs } 1390.78x$$

Where,

Y = Value to be estimated/Sales revenue (000000)

a = Intercept of the line

b = Coefficient of X variable

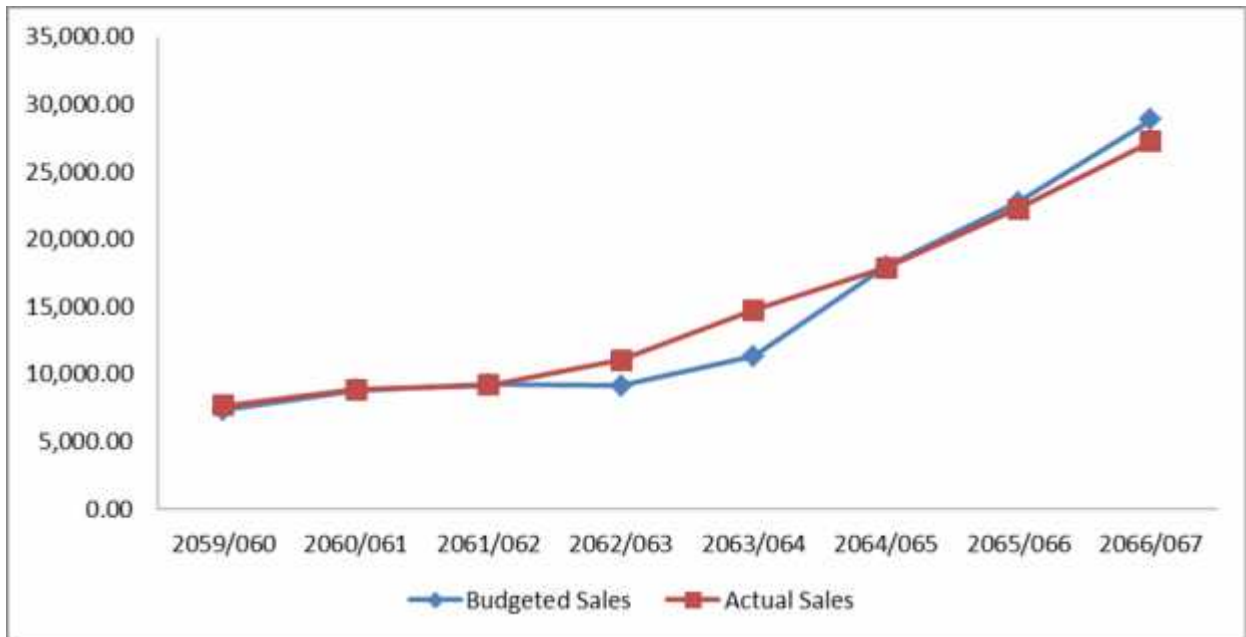
X = Independent variable/Time factor

The sales for 2067/068 according to above trend analysis is

When X = 9 (2067/068), 10 (2068/069)

Y (2067/068) = Rs 27379.17 and Y (2068/069) = Rs 28769.8 but the NTC has budgeted for 2067/068 of Rs 28325.15 million and for 2068/069 of Rs 29,858.17 million it indicates the budget is highly optimistic due to political condition changing into permanent peace keeping country. The trend line presentation of budgeted and actual sales is given in the following figure.

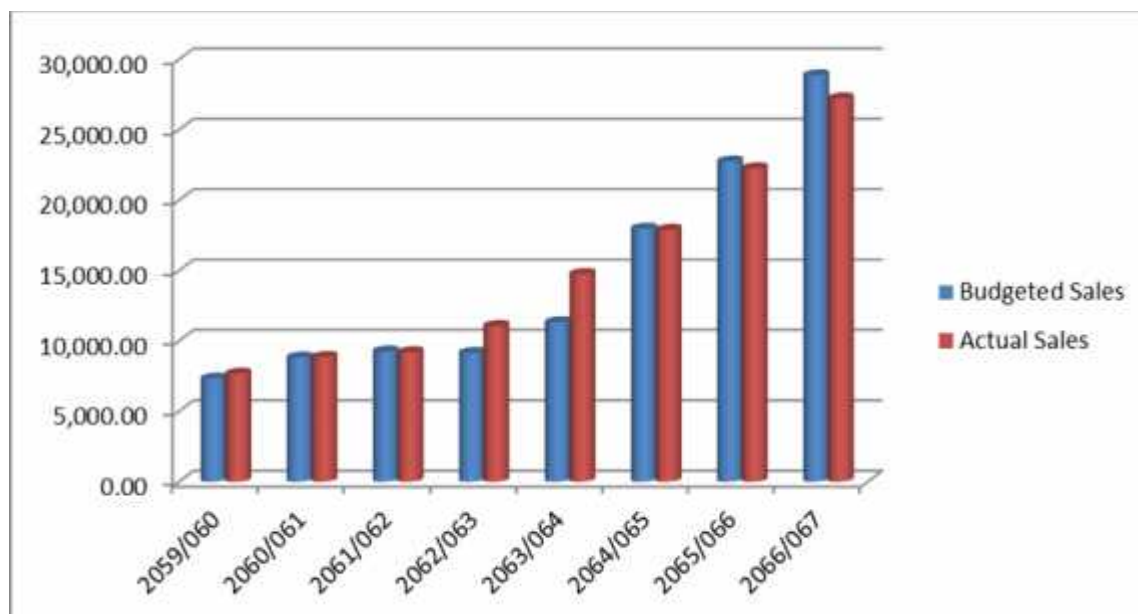
Figure 4.1



The above trend line shows a very consistent relationship between budgeted and actual sales except in FY 2062/063 and 2063/064.

4.2.3 Presentation of Actual and Budgeted Sales

The actual and budgeted sales are presented in the graphical mode with the help of bar diagram as given below.

Figure 4.2

The above presentation of actual and budgeted sales/revenue shows the highly consistent result. In FY 2062/063 and 2063/064, the actual sales revenue is highly achieved in comparison to budgeting sales. The cause might have been the ameliorating political condition of the nation.

4.2.4 The Revenue Contribution of Different Service Product in FY 2064/065

The revenue was budgeted and generated from operating and non operating revenue through PSTN, CDMA, Cellular Mobile and Internet and inter administrative operation up to FY 2065/066. But from 2066/067, the revenue plan/budget has been prepared in very simplified way so as to separate the revenue generation from different products. This helps in more specializing in budget preparation, implementation and evaluation. For example, the budgeted and actual sales of fiscal year 2066/067 have been presented below.

Table 4.3

Revenue/ Sales Structure/Contribution of FY 2066/067(Rs 000000)

S.N.	Particulars	Budgeted	Actual	Variation	Remarks
1	General Telephone/PSTN	6648.78	5114.04	1534.74	U
2	CDMA	2363.12	2681.45	-318.73	F
3	GSM Mobile	11388.9	12998.14	-1609.24	F
4	Inter- Adm Sharing	3985	4264.26	-279.26	F
5	Other Operating	787.19	0	787.19	U
6	Non Operating	1200	1383.95	-183.95	F
	Total	26372.99	26441.84	-69.25	

Source: Audited Annual Report of NTC

There are dual characteristics between actual and budgeted revenues contributed by aforementioned service categories. Some are favourable and some are unfavourable. After all the organization's revenue generation performance is highly consistent with the budgeted revenue because the revenue achievement is about 99.73% of budgeted revenue. The revenue contribution of those service products are presented below in pie chart.

Figure 4.3

Budgeted Sales/Revenue (Rs 000000) in Pie Chart Presentation

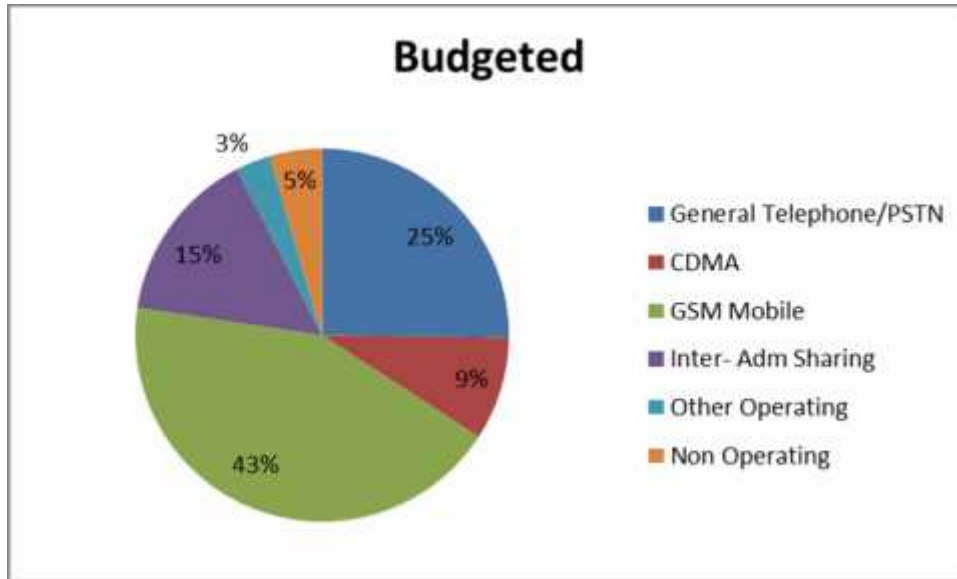
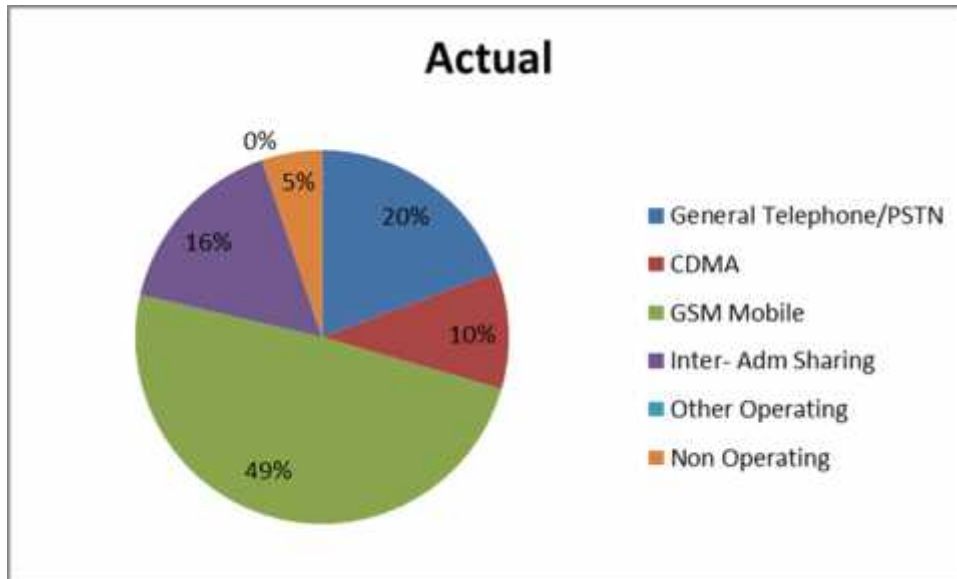


Figure 4.4

Actual Sales/Revenue (Rs 0000000) in Pie Chart Presentation



The above pie chart shows that the most occupy in the revenue are by GSM mobile and general telephone services. But the revenue achievements in both are below the budgeted one. That is why, the organization should carefully monitor these two services product's budget

program and cause of downfall of revenue should be found in time otherwise it can lose its leading position in telecommunication service industry in Nepal. Because the turning point for winning the game is an opponent's weakness.

4.3 Ratio Analysis

An arithmetical relationship between two figures is known as ratio. Ratio analysis is a technique of analysis and interpretation of financial statement through mathematical expression. The data given in the financial statement are meaningless and they are unable to communicate anything from the analytical viewpoint. Thus ratio analysis is essential to read the financial statement for future use.

Ratio analysis is an important useful technique to check upon the efficiency of an organization. The management can arrive at important decisions by using ratio analysis. The ratio analysis is used to express the mutual relation of different accounts consisting in financial statement. From this, the business activities are made possible to analyze systematically. The ratio analysis is important for managerial use due to the advantages of assessing operating efficiency, measuring financial solvency, future forecasting, decision making, taking corrective actions, comparing inter firm performance, and controlling costs. The ratios used for financial analysis of business can be classified into four categories. They are:

4.3.1. Liquidity Ratios

Liquidity ratios are used to infer an organization's ability to meet its short term obligations. These ratios are used to verify short term obligations with the resources available and are measured by current ratio and quick ratio. The liquidity ratio reflects the short term financial strength of a firm.

4.3.1.1 Current Ratio (CR)

The relationship between current assets and current liabilities is expressed by current ratio. Current ratio is supposed to be around 2:1 but this standard should not be used rigidly. A higher ratio here would imply that the company can maintain a sound liquidity position from the short-term lenders' view point and from the corporation's own view point. But a very high ratio would indicate that a high amount of idle fund being invested in current assets or higher proportion of financing the current assets by permanent sources.

Current Ratio (CR) = Current Assets / Current Liabilities

Table 4.4

Calculation of Current Ratio and its Straight Line Trend Equation (Rs. in thousand)

Year	Current Assets (Rs)		Current Liabilities (Rs)		Current Ratio	
	Budget	Actual	Budget	Actual	Budget	Actual
059/060	16484800	18424625	7595880	10137347	2.17	1.82
060/061	19968410	20213762	9732010	12629715	2.05	1.6
061/062	20,814,250	20,598,351	11,854,790	14,722,677	1.76	1.4
062/063	26,101,070	22,526,522	14,604,470	15,665,379	1.79	1.44
063/064	24,174,626	23,519,754	17,703,143	15,675,154	1.36	1.5
064/065	22,046,493	24,180,638	19,377,224	15,014,439	1.14	1.61
065/066	27387295	28837295	16653856	17057666	1.64	1.69
066/067	34832642	35015364	18315224	19016110	1.90	1.84
Average Current Ratio					1.73	1.61

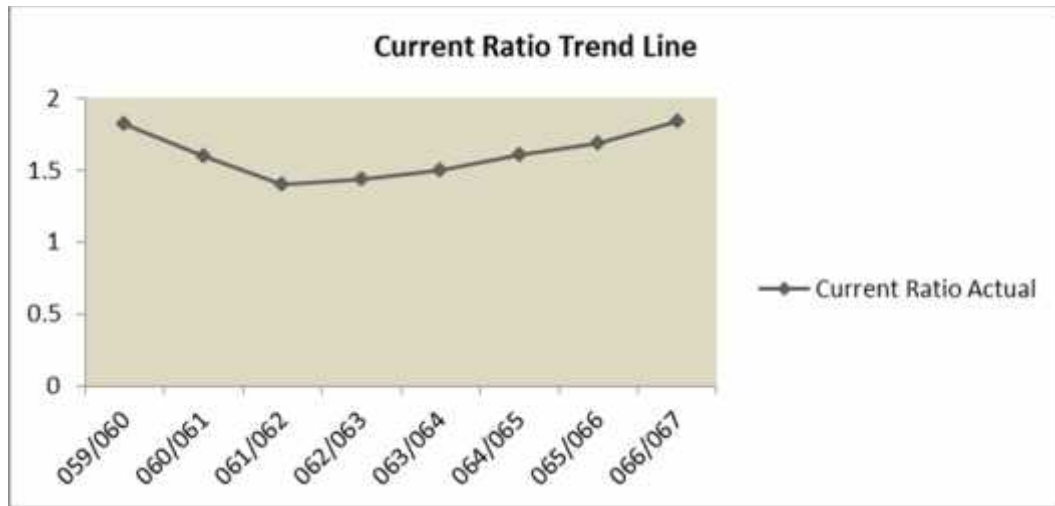
Average Current Ratio 1.73 and 1.61

Source: Audited Annual Reports and Budget book of NTC

The above table shows that the average current ratio is 1.61 times during the study period. The ratio 1.61 on an average indicates that the organization has current assets of Rs 1.61 for each rupee of current liabilities. As current liabilities are paid by the current assets, it seems that NTC will be able to pay its current liabilities at the time of requirement. It ranged between a highest of 1.84 times in the FY 2066/067 BS and a lowest of 1.40 times in the FY 2061/062. The overall ratio trend does not show clear direction but in most recent years it seems increasing slowly. While comparing with the average the ratio of higher than the average, from the FY 2059/060 to 2060/061 was that of the FY 2061/062 to 2063/064 the ratios were lower than the average. It seems that the current ratios were not so volatile over time. For analytic purpose, the actual current assets and liabilities are taken during the study period. Approximate values are taken into consideration for making calculation easy.

Fitting a straight line trend equation of current ratio over study period is given below.

Figure 4.5



Straight Line Trend of the Ratio is: $Y = 1.61 + 0.008x$

When $X = 9$, $Y = 1.68$ i.e. Expected Current Ratio for the next year (Year = 9)

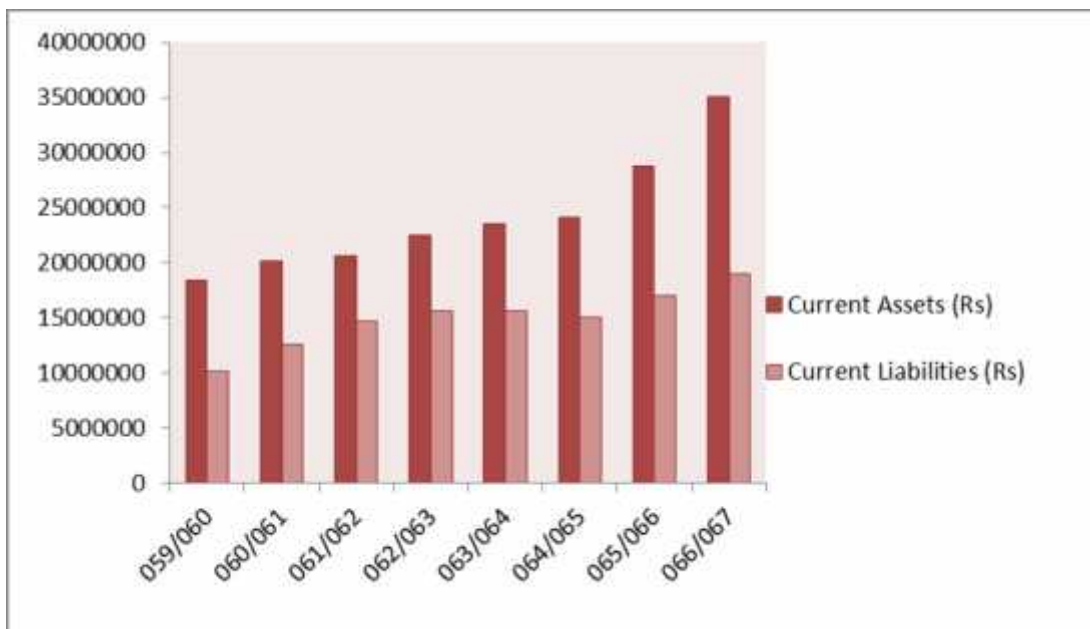
Where,

Y= Estimate of the Current Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run positive growth rate on which it will go on 0.008 times per year for this ratio. Based on the fitted trend line, it can be expected that the liquidity position of the organization would remain sound in future. The current assets and current liabilities relationship are presented in figure below.

Figure 4.6



4.3.1.2 Quick Ratio/ Acid Test Ratio

One defect of current ratio is that it fails to convey information on the quick assets of a firm. Quick ratio is a measure of liquidity designed to overcome the defect of current ratio. The term quick refers to current assets which can be converted into cash immediately or at a short notice without diminution of value. The current assets excluded from this category are inventory and prepaid expenses. So, while calculating quick ratio the sum of quick assets are divided by current liabilities. The quick assets, current liabilities and quick ratio are given below:

$$\text{Quick Ratio} = [\text{Current Assets} - \text{Inventory} - \text{Prepaid Expenses}] / \text{Current liabilities}$$

Table 4.5

Calculation of Quick Assets and Quick Ratio with Trend Values (in Rs 000)

Year	Current Assets (Rs)	Quick Assets (Rs)	Current Liabilities (Rs)	Quick Ratio	Inventory (Rs)	Trend Values
2059/060	18424147	18023363	10137347	1.78	400784	1.630
2060/061	20213762	19958512	12629715	1.58	255250	1.590
2061/062	20598352	20288495	14722677	1.38	309857	1.558
2062/063	22526522	22197207	15665379	1.42	329315	1.522
2063/064	23519754	23192070	15675154	1.48	327684	1.486
2064/065	24180638	23764214	15014439	1.58	416424	1.450
2065/066	28837295	28657165	17057666	1.68	180131	1.414
2066/067	35015364	34843093	19016110	1.83	172271	1.416
Average Quick Ratio				1.59		

Source: Audited Annual Report and Budget Books of Nepal Telecom

The above table shows that the average quick ratio is 1.59 times during the study period. The ratio of 1.59, on an average, indicates that the organization has quick assets of Rs 1.59 for each rupee of current liabilities. As average current ratio is 1.61 throughout the study period, it can be seen that a little difference between these two ratios (just about 0.02). It means that the least liquid item out of the current assets. The inventory has occupied a very nominal value as part of the total current assets of NTC. In this respect, NTC can be said to have a good liquidity position to fulfill its current obligations when they become due.

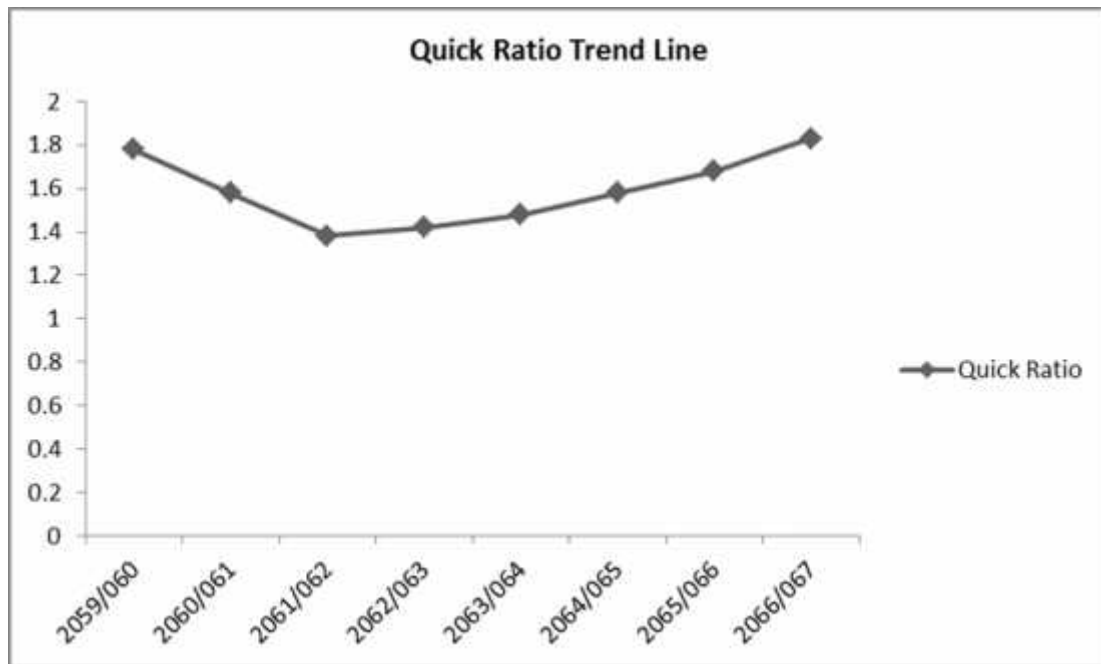
The table shows that the ratio ranges between a highest of 1.83 times in the FY 2066/067 and a lowest of 1.38 times in the FY 2061/062. The overall ratio trend does not show any clear direction but in most recent years it seems increasing slowly. While comparing with the

average, one finds that in the FY 2059/060, 2065/066 and 2066/067 the ratio is higher than the average and in the FY 2060/061 to 2063/064 the ratio is lower than the average. The actual trend shows that the quick ratio is not so volatile over time.

Inventory is deducted from total current assets to desire quick assets and divided by total current liabilities. Quick ratio is supposed to be around 1:1 but this standard also should be defined by the nature of the organization

Figure 4.7

The Straight Line Trend Presentation of Quick Ratio



The trend line equation is represented by the linear relationship between two variables i.e quick ratio over a given time period of FY 2059/060 to 2066/067.

Straight Line Trend of the ratio is: $Y = 1.59 + 0.0089 X$

When $X = 9$, $Y = 1.67$ {i.e. Expected quick ratio for next year (Year =9)}

Where,

Y= Estimate of the Quick Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 0.0089 times per year for this ratio. Based on the fitted trend line, it can be expected that the liquidity position of the organization could remain sound in future if this positive growth rate of quick ratio will be discontinued.

4.3.2 Turnover Ratios / Activity Ratios/Efficiency Ratios

Funds of creditors and owners are invested in various assets to generate sales and profits. The better the management of assets, the larger will be the amount of sales. Activity ratios are

employed to evaluate the efficiency with which the firm manages and utilizes its assets. These ratios are also called turnover ratios because they indicate the speed with which assets are being converted or turned over into sales. So, it involves a relationship between sales and assets reflecting whether assets are managed well. Several activity ratios can be calculated to judge the effectiveness of assets utilization.

4.3.2.1 Inventory Turnover Ratio (ITR)

The inventory turnover ratio (ITR) is the relationship between cost of goods sold and average inventory or sales and inventory of a firm. It indicates the efficiency with which the firm is able to use its inventory to generate sales revenues. Generally, the higher, a firm's inventory turnover indicates the more efficient its inventory management is supposed to be. Generally in service organization, the inventory turnover is calculated by dividing sales by closing inventory. This ratio of NTC for the period of eight years along with its straight line trend is calculated.

Inventory Turnover Ratio = Sales/Inventory

Table 4.6

Calculation of Inventory Turnover Ratio and its Straight Line Trend (Rs in 000)

Year Operating Sales(Rs) Inventory(Rs) ITR Trend Values

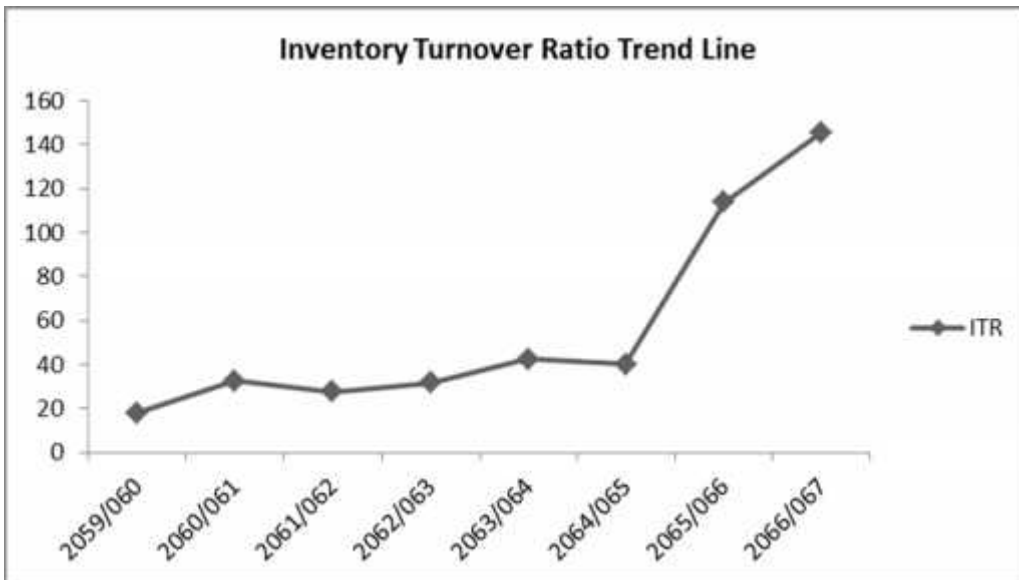
Year	Operating Sales (Rs)	Inventory (Rs)	ITR	Trend Values
2059/060	7,208,086	400,784	17.98	21.74
2060/061	8,318,970	255,250	32.59	25.90
2061/062	8,584,144	309,857	27.70	30.06
2062/063	10,413,655	329,315	31.62	34.22
2063/064	13,967,318	327,684	42.62	38.38
2064/065	16,788,359	416,424	40.32	42.54
2065/066	20,482,482	180,131	113.70	46.7
2066/067	25,058,303	172,261	145.46	60.42
Average ITR			56.49	

Source: Audited Annual Financial Reports of NTC

The above table shows that the average of the inventory turnover ratio of NTC for the past eight years is 56.49 times. The average ratio of 56.49 indicates that each rupee of inventory is generating sales of Rs. 32.14. It ranged between a highest of 145.46 times in the FY 2066/067 BS and a lowest of 17.98 times in the FY 2059/060 BS. The overall ratio trend showed an upward direction particularly in the most recent years against an average ratio. The actual trend shows that the inventory turnover ratio is mildly volatile over time. But for the last years, the ratio was increasing above the average. And since a high ratio is good from the view

point of inventory utilization, the increasing ratio seems favorable for NTC. Fitting a trend line shows the direction of the inventory turnover ratio movement over study period which is presented below.

Figure 4.8



Straight Line Trend of the Ratio is: $Y = 56.49 + 2.08x$

When $X = 9$, $Y = 75.21$ {i.e. Expected ITR for next year (Year = 9)}

Where,

Y = Estimate of the Inventory Turnover Ratio

X = Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 2.08 times per year for this ratio. Based on the fitted trend line, it can be expected that the inventory utilization level of NTC should improve in coming years. Operating sales and inventory are presented for calculation of inventory turnover ratio. Two figures are taken into consideration after decimal in calculating inventory turnover ratio as an approximate value.

4.3.2.2 Average Age of Inventory

Average age of inventory is just an alternative method of expressing the efficiency of the inventory management. Lesser the time the inventory remains in the godown, better would be the inventory management. The average age of inventory is calculated by dividing 365 by inventory turnover ratio.

Average age of inventory = $365 / \text{inventory turnover ratio}$

Table 4.7
Calculation of Average Age of Inventory (No. of days)

Year	Days in Year	ITR	Age of Inventory
2059/060	365	17.98	20.30
2060/061	365	32.59	11.20
2061/062	365	27.70	13.18
2062/063	365	31.62	11.54
2063/064	365	42.62	8.56
2064/065	365	40.32	9.05
2065/066	365	113.70	3.21
2066/067	365	145.46	2.50
Average		56.49	9.94

Source: Audited Annual financial Reports of NTC

The above table shows that the average age of inventory of NTC for the study period is 9.94 days. The average value of 9.94 indicates that an item of inventory purchased by the firm remains in the godown for 9.94 days before being released for sale or service to its customers (i.e. a typical item of inventory in the store is replaced every). The average age ranged between a highest of 20.30 days in the FY 2059/060 BS and a lowest of 2.50 days in the FY 2066/067 BS.

The overall value trend showed a downward direction particularly in the most recent years. The actual trend shows that the average age of inventory is showing decreasing tendency over time particularly for the last three years. And since a lower value is good from the view point of inventory utilization, the decreasing value is a good indication for NTC in such instable political condition of Nepal.

4.3.2.3 Debtors Turnover Ratio (DTR)

The debtor turnover ratio (DTR) is the relation between the credit sales and average receivables of a firm. The analysis of debtor turnover ratio supplements the information regarding the liquidity of one item of current assets of the firm. It indicates the efficiency with which the firm is able to turn its credit sales into cash. Generally, the higher a firm's debtor turnover, the more efficient its credit management is supposed to be and vice versa.

The debtor turnover is calculated by dividing sales by closing sundry debtors. This ratio of NTC for the period of eight years along with its straight line trend is calculated.

Debtors Turnover Ratio= Sales / Average Debtors or Closing Debtors

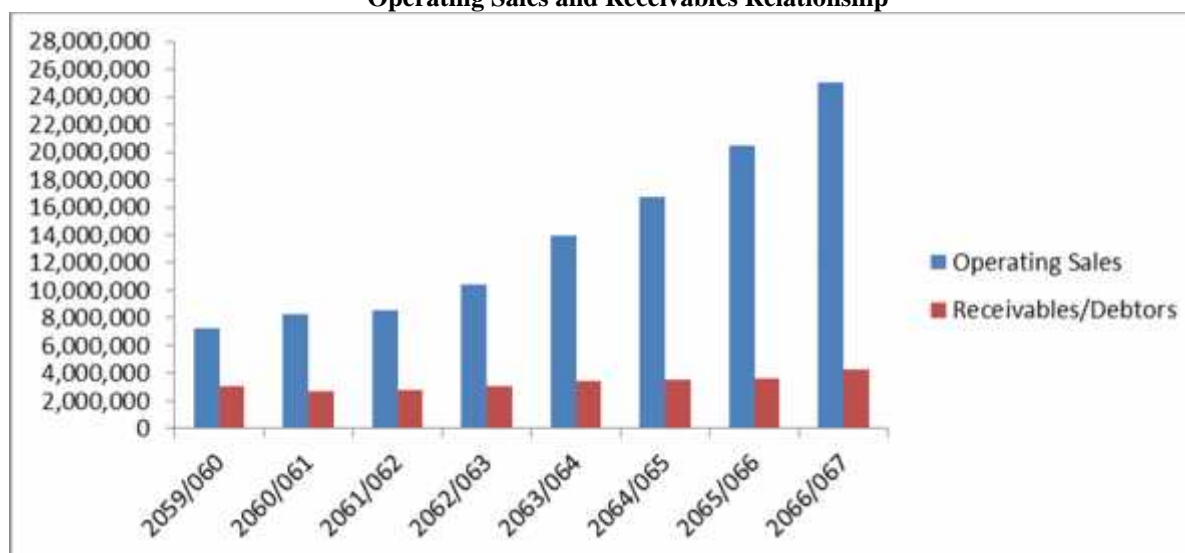
Table 4.8**Calculation of Debtors Turnover Ratio and its Straight Line Trend (Rs. in 000)**

Year	Operating Sales	Receivables/ Debtors	Debtor Turnover Ratio	Straight Line Trend
2059/060	7,208,086	3,030,277	2.38	2.36
2060/061	8,318,970	2,668,942	3.12	2.80
2061/062	8,584,144	2,825,944	3.04	3.24
2062/063	10,413,655	3,099,496	3.36	3.68
2063/064	13,967,318	3,455,512	4.04	4.12
2064/065	16,788,359	3,482,610	4.82	4.56
2065/066	20,482,482	3,593,205	5.70	5.0
2066/067	25,058,303	4,295,998	5.83	5.54
Average Debtor Turnover Ratio			4.04	

Source: Audited Annual financial Reports of NTC

The above table shows that the average DTR of NTC for the past eight years is 4.04 times. The average ratio of 4.04 indicates that each rupee of investment in receivables is generating sales of Rs 4.04. It ranged between a highest of 5.83 times in the FY 2066/067 BS and a lowest of 2.38 times in the FY 2059/060 BS. The overall trend of the ratio does not show specific upward direction except in 2061/062. The ratio seems to be mildly volatile over time but it has shown marked improvements over the most recent years of the study period which, if maintained, can be a very good sign for the credit collection of the NTC. While comparing with the average, one finds that from the FY 2064/065 to 2066/067, the ratio is higher than the average and for the FY 2059/060 to 2062/063 the ratio is lower than the average. The operating sales and receivables are depicted in the following figure.

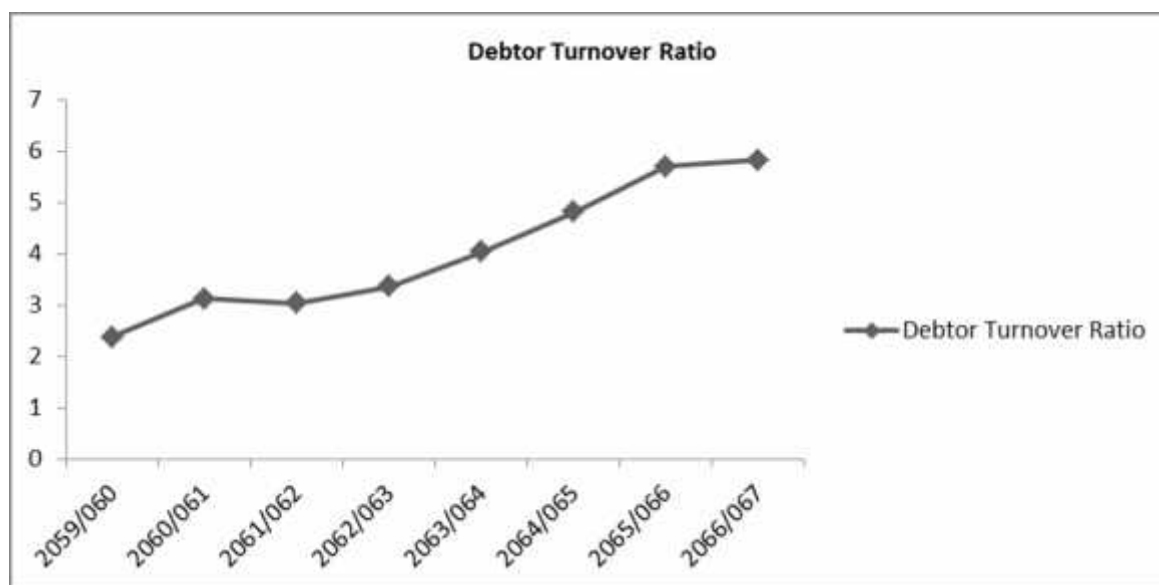
Figure 4.9
Operating Sales and Receivables Relationship



Source: Audited Annual Financial Report of NTC

Fitting a straight line trend reflects the clear direction of debtor turnover ratio over study period as given below.

Figure 4.10



Straight Line Trend of the Ratio is: $Y = 4.04 + 0.22x$

When $X = 9$, $Y = 6.02$ {i.e. Expected DTR for next year (Year =9)}

Where,

Y = Estimate of the Debtors Turnover Ratio

X = Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 0.22 times per year for this ratio. Based on the fitted trend line, it can be expected that the receivable management of NTC should improve in coming years. Operating sales and debtors/receivables are taken into consideration for calculation of debtor turnover ratio.

4.3.2.4 Average Collection Period (ACP)

It represents the average numbers of days for collecting the cash from debtors. The average number of days through which debtors remains outstanding is called average collection period. Average collection period is just an alternative method of expressing the turnover efficiency of the receivables. Lesser the time the receivables remains due, better it is supposed to be. The average collection period is calculated by dividing 365 by debtors turnover ratio.

Average Collection Period (ACP) = $\frac{365}{\text{Debtors Turnover Ratio}}$

Or

(Days in year / Weeks in year) \div Debtors Turnover Ratio

Table 4.9
Calculation of Average Collection Period (Days)

Year	Days in Year	Debtor Turnover Ratio	ACP (Days)
2059/060	365	2.38	153.36
2060/061	365	3.12	117
2061/062	365	3.04	120
2062/063	365	3.36	108.63
2063/064	365	4.04	90.35
2064/065	365	4.82	77.73
2065/066	365	5.70	64.03
2066/067	365	5.83	62.60
Average		4.04	98.96

Source: Audited Annual Financial Reports of NTC

The above table shows that the average collection period of NTC over eight years of study period is 98.96 days. The average value of 98.96 indicates that an invoice of credit receivable remains outstanding for 98.96 days before being collected from the customers (i.e. a typical debtor of NTC pays his/her dues 98.96 days after the purchase of goods/consumption of service). The ACP ranged between a highest of 153.36 days in the FY 2059/060 and a lowest of 62.60 days in the FY 2066/067 BS. While comparing with the average, it can be found that from the FY 2059/060 to 2062/063, the values were higher than the average and for the FY 2063/064 to 2066/067 the values were lower than the average value. The actual trend shows that the average collection period is showing decreasing tendency over latter half periods of the study periods. And since a lower value is good from the view point of collection efficiency, the decreasing value may be a good indication for NTC in coming years. The organization should consider market competition while deciding to give credit for its customers along with the 5Cs.

4.3.2.5 Total Assets Turnover Ratio (TATOR)

This ratio is used to take information on total assets for generating sales in operation of business by the firm. The total assets turnover (TATOR) is the relation between the sales and the total assets of a firm. It indicates the efficiency with which the firm is able to use all its assets to generate sales revenues. Generally, the higher a firm's total assets turnover, the more efficiently its assets has been capitalized. The total assets turnover is calculated by dividing sales by total assets. It is mathematically presented as given below.

Total Assets Turnover Ratio (TATOR) = Sales / Total assets

Total Assets (TA) = Current Assets + Fixed Assets

This ratio of NTC for the period of eight years along with its graphic trend is shown in the following table.

Table 4.10**Calculation of Total Assets Turnover Ratio and its Straight Line Trend (Rs. in 000)**

Year	Total Sales (000)	Total Assets (000)	TATOR	Trend Value
2059/060	7,669,283	29,724,632	0.258	0.2490
2060/061	8,855,035	33,080,440	0.268	0.2668
2061/062	9,194,247	35,430,582	0.259	0.2846
2062/063	11,058,915	39,214,958	0.282	0.3024
2063/064	14,751,624	43,529,299	0.339	0.3202
2064/065	17,889,310	50,358,333	0.355	0.3380
2065/066	22,257,712	58,686,688	0.3792	0.3556
2066/067	27,221,060	66,165,710	0.4114	0.3769
Average Total Assets Turnover Ratio			0.319	

Source: Audited Annual Financial Reports of NTC

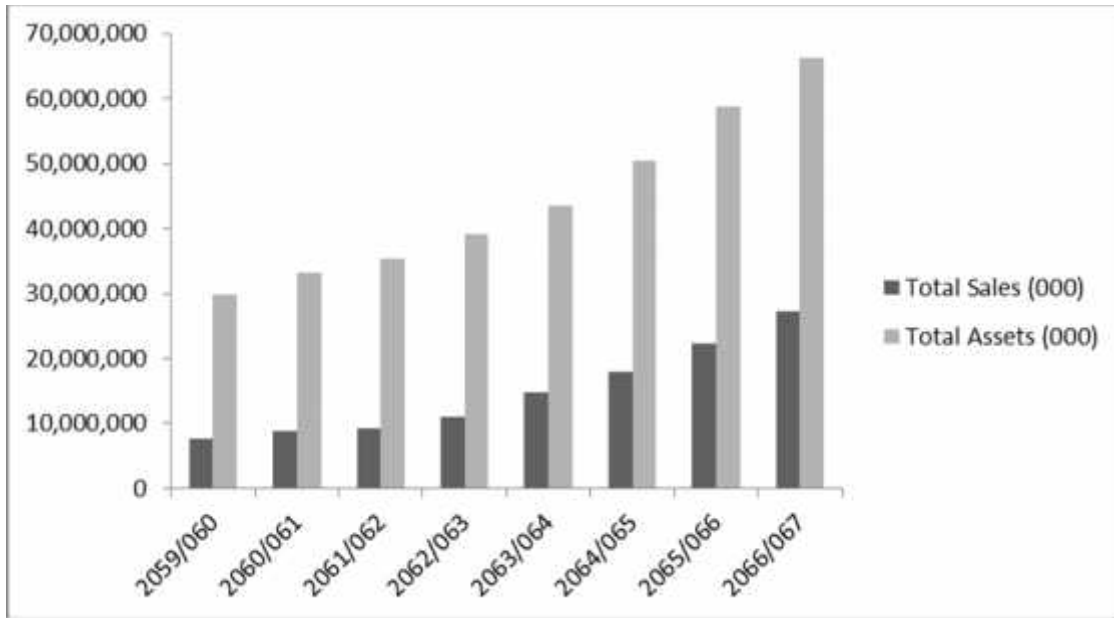
Where,

Total Assets = Current Assets + fixed Assets

Total fixed Assets = Net fixed assets + Capital work in progress + Investments

The above table shows that the average of the TATO Ratio of NTC for past eight years is 0.319 times which is lower than the general standard average of at least 1.00 times for this line of business. The ratio seems to be a little volatile as it ranges from 0.258 in the FY 2059/060 to 0.4114 in the FY 2067/067. The average ratio of 0.319 indicates that each rupee of investment in assets is generating sales of Rs. 0.319. The overall ratio trend shows a bit improvement in last two years as increasing. The relationship between total sales and total assets are depicted in the following figure.

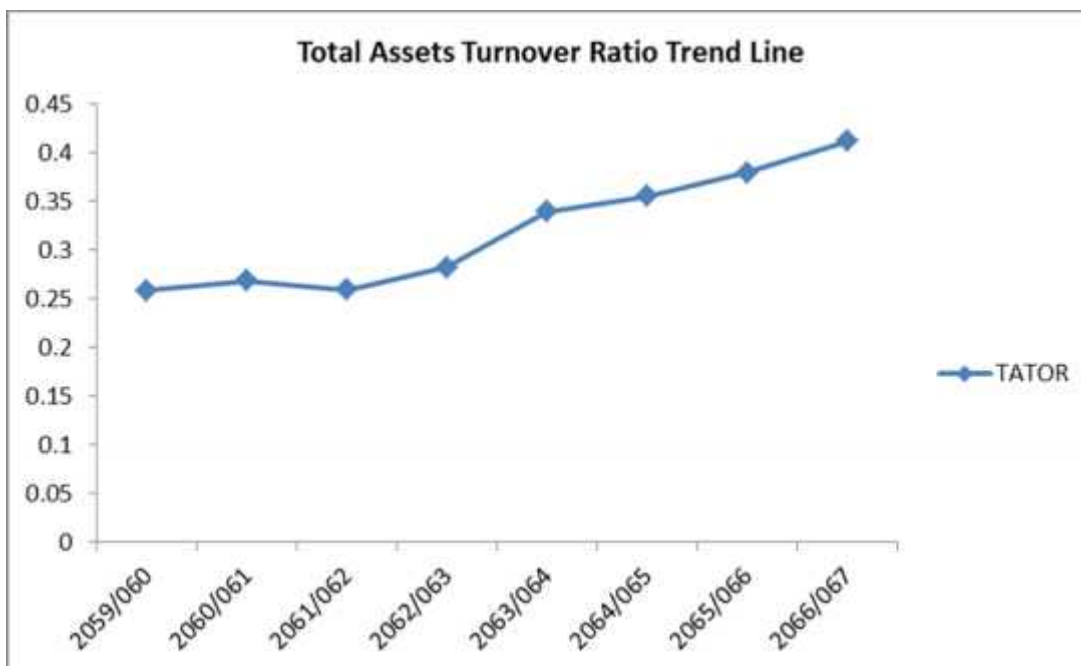
Figure 4.11



The above picture also shows the sales generated by the investment made in assets by NTC. There is very low sales revenue generation in compared to the investment made in assets. We can conclude that the planner had not considered the assets and sales relationship regarding the investment made in assets primarily to generate sales revenue. The total sales are constituted by operating revenues and non operating revenues and total assets include current assets and net fixed assets.

Total assets turnover ratio and its trend line presentation over the study period are given below.

Figure 4.12



Straight Line Trend of the Ratio is: $= 0.319 + 0.0089 x$

When $X = 9$, $= 0.399$ {i.e. Expected TAT Ratio for next year (Year =9)}

Where,

Y= Estimate of the Total Assets Turnover

X = Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run negligible growth rate of 0.0089 times per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the total assets utilization level of NTC should remain at least constant in coming years. Continuous expansion of its assets over the recent years followed by marginal increase in sales has primarily caused TATOR to remain stable. If the firm cannot utilize this expanded capacity in the near future, the firm may have to retrench its assets investment or else it would face stagnant TATO ratio.

4.3.2.6 Fixed Assets Turnover Ratio (FATR)

A relationship between sales and fixed assets is known as fixed assets turnover ratio. The fixed asset turnover measures the efficiency with which the firm has been using its fixed (earning) assets to generate sales. This ratio shows the relationship between sales and net fixed assets of a firm. Generally, higher turnover is preferred because it reflects greater efficiency in the utilization of fixed assets. The fixed asset turnover is calculated by dividing the firm's sales by its net fixed assets. It is mathematically expressed as follows.

Fixed Assets Turnover Ratio (FATR) = Sales / Net Fixed Assets

This ratio of NTC along with its graphical trend for the study period is shown as follows:

Table 4.11

Calculation of FA Turnover Ratio and its Straight Line Trend Value (Rs. in 000)

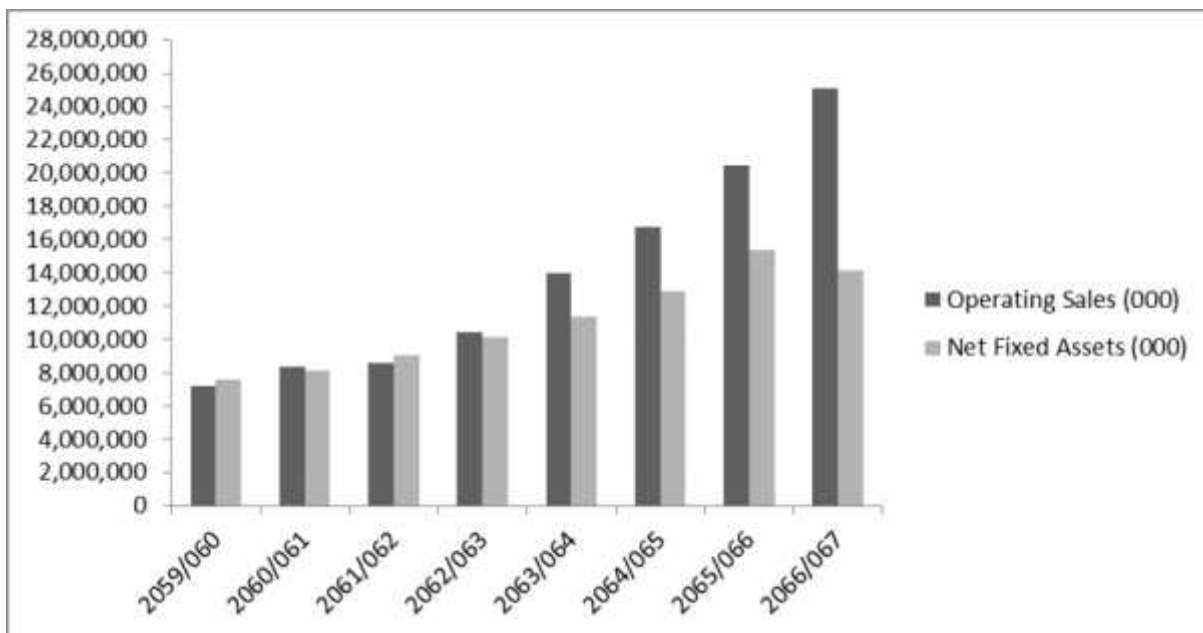
Year	Operating Sales (000)	Net Fixed Assets (000)	FA Turnover Ratio	Trend Value
2059/060	7,208,086	7,607,614	0.9475	1.115
2060/061	8,318,970	8,094,882	1.0277	1.150
2061/062	8,584,144	9,040,917	0.9495	1.185
2062/063	10,413,655	10,088,427	1.0322	1.220
2063/064	13,967,318	11,361,043	1.2294	1.255
2064/065	16,788,359	12,897,703	1.3016	1.290
2065/066	20,482,482	15,365,515	1.333	1.326
2066/067	25,058,303	14,143,908	1.7716	1.479
FA Turnover Ratio			1.1991	

Source: Audited Annual Financial Reports of NTC

From the above table, it is clear that the fixed assets turnover of NTC is in increasing trend except in FY 2061/062 i.e 0.9495. It ranges from a minimum of 0.9475 times in the FY 2059/060 to a maximum of 1.7716 times in the FY 2066/067. While comparing with the average, we found that in initial four years, the ratios are below the average and for latter four years, the ratios are above the average. The average ratio is 1.1991 times which indicates that each rupee of investment in fixed assets is generating sales of Rs 1.1991. Although average of this ratio is almost 1.00 marks, the good aspect is that it is showing a clear upward trend in latter half of the study period. The organization should follow the same increasing rate of this ratio. That reflects the proper utilization of fixed assets to generate sales revenue. I have taken fixed assets after depreciation and operating sales revenues because the fixed assets are directly related to generate operating sales through the use of equipments, machinery and plants, land and building, vehicles furniture and fixture and so on. The operating sales and net fixed assets relation are shown in the following figure.

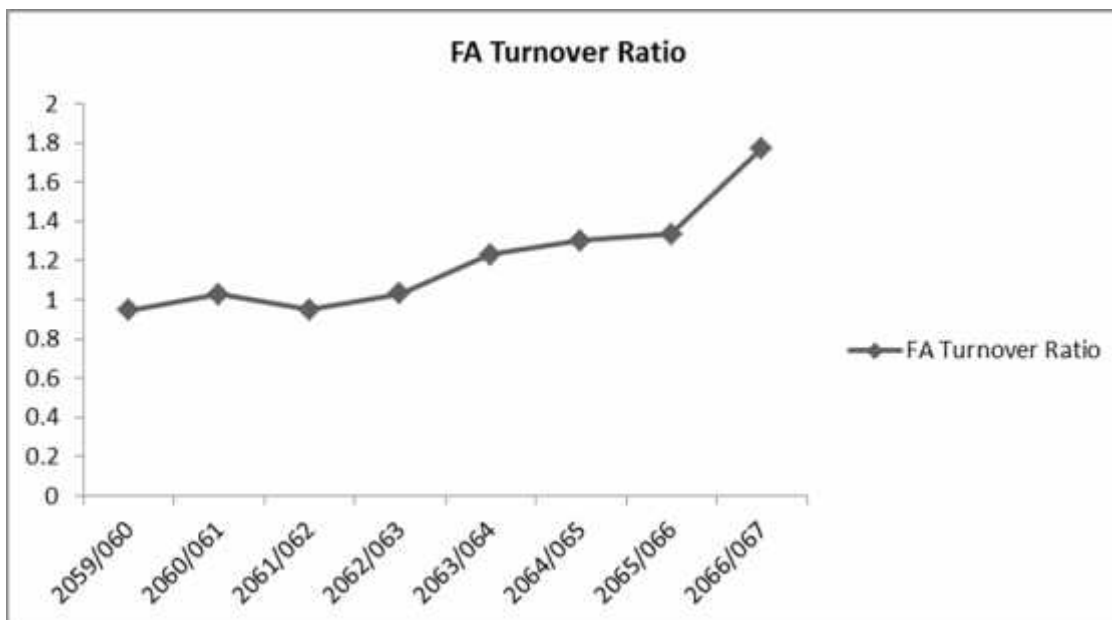
Figure 4.13

Operating Sales and Net Fixed Assets Relationship



Straight line trend of FA turnover ratio over study period is presented in the following figure.

Figure 4.14



Straight Line Trend of the Ratio is: $Y = 1.1991 + 0.035 X$

When $X = 9$, $Y = 1.5140$ {i.e. Expected FAT for next year (Year =9)}

Where,

Y = Estimate of the Fixed Assets Turnover Ratio

X = Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a nominal long run positive growth rate of 0.035 times per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the fixed assets utilization level of NTC should improve in coming years. NTC should try to increase its current level of fixed assets utilization in the near future.

4.3.2.7 Working Capital Turnover Ratio (WCTR)

Working capital is an important role in day to day operation such as to generate sale that is why it is essential to measure the efficiency of working capital. The working capital turnover (WCT) ratio measures the efficiency with which the firm has been using its net current assets (revolving assets) to generate sales. This ratio shows the relationship between sales and net current assets of a firm. Generally, higher turnover is preferred because it reflects greater efficiency in the utilization of net current assets. Working capital here means only that part of current assets which is financed by the long term sources. The working capital turnover is calculated by dividing the firm's sales by its net working capital. This ratio of NTC along with its graphical trend for the period of eight years is shown below.

Working Capital Turnover Ratio (WCT) = Sales / Net working capital

Net Working Capital = Current Assets – Current Liabilities

Where,

Total Current liabilities = Current liabilities + provisions

Total Current Assets = Inventory + Receivables + cash and bank + loans and advances.

Table 4.12

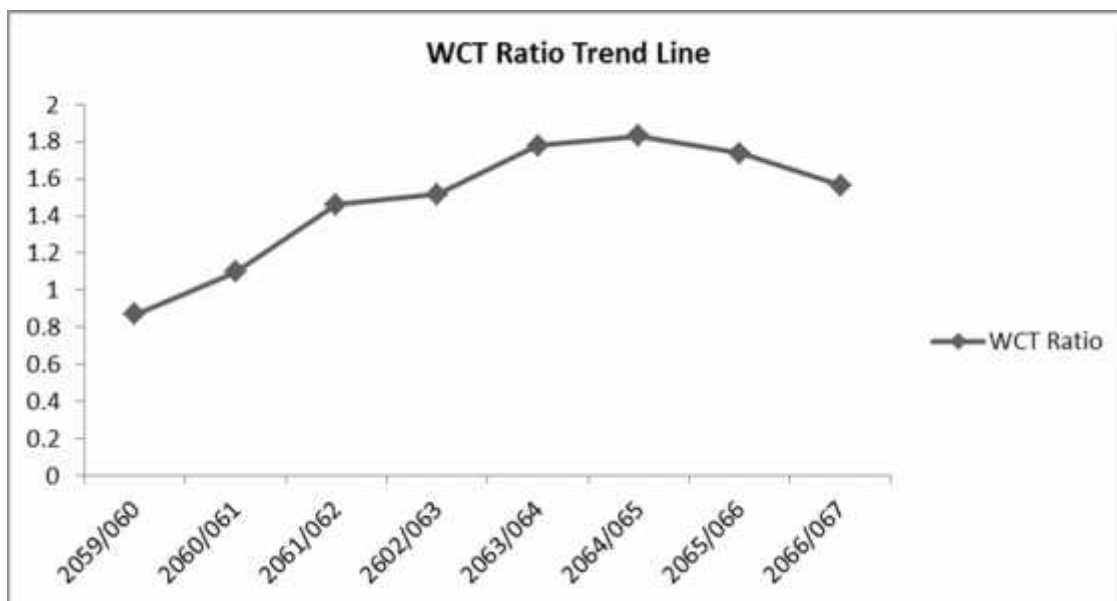
Calculation of Working Capital Turnover Ratio and its Straight Line Trend

Fiscal Year	Operating Sales	Current Assets	Current Liabilities	Net Working Capital	WCT Ratio
2059/060	7,208,086	18,424,625	10,137,347	8,287,278	0.8698
2060/061	8,318,970	20,213,762	12,629,715	7,584,047	1.0969
2061/062	8,584,144	20,598,351	14,722,677	5,875,674	1.4609
2062/063	10,413,655	22,526,522	15,665,379	6,861,143	1.5178
2063/064	13,967,318	23,519,754	15,675,154	7,844,600	1.7805
2064/065	16,788,359	24,180,638	15,014,439	9,166,199	1.8315
2065/066	20,482,482	28,836,295	17,057,666	11,778,629	1.7389
2066/067	25,058,303	35,015,364	19,016,110	15,999,254	1.5662
Average WCT Ratio					1.4828

Source: Audited Annual Financial Reports of NTC

The above table shows that the average of the WCT ratio of NTC for past eight years is 1.4828 times and this is lower than the general standard average of at least 2.00 times for this line of business. The ratio seems to be increasing as it ranged to 1.8315 in the FY 2064/065 BS from 0.8698 in the FY 2059/060 BS. The average ratio of 1.4828 indicates that each rupee of investment in working capital is generating sales of Rs 1.4828. The overall ratio trend shows an upward movement of the ratio over the eight year period. It means that for the eight years, the ratio is increasing continuously and last two years of the study period it little decreased which should be the real cause of concern for the NTC.

Figure 4.15



Straight Line Trend of the Ratio is: $Y = 1.483 + 0.099x$

When $X = 9$, $Y = 2.374$ {i.e. Expected WCT for next year (Year =9)}

Where,

Y= Estimate of the Working Capital Turnover Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run sizeable growth rate of 0.099 times per year for this ratio. If this ratio is to move as per the fitted trend Line in future, it can be expected that the total assets utilization level of the company would be to the level of satisfactory in the near future. Continuous addition in working capital over the recent years followed by less than proportional increase in sales has primarily caused WCT to nosedive over the study period. If the firm cannot utilize this added investment in working capital in the near future, the firm may have to retrench its working capital investment or else it would face further decline in WTC ratio. Net working capital of NTC is compared to calculate working capital turnover ratio.

4.3.2.8 Capital Employed Turnover Ratio (CETR)

Capital includes shares and debentures generally of long term funds. Funds of owners and creditors are invested in various assets to generate sales, so the invested capital must be compared & analyzed with sales in order to examine the efficiency of the company's management in generating revenues from available capital. The sales to capital employed ratio also called capital employed turnover, have been computed to know how efficiently the long term capital is employed in generation of revenues. Higher ratio is desirable from the viewpoint of owners as well as creditors.

The ratio shows the future sales promotion condition by appropriate use of long term debt and capital. It is calculated mathematically as given below.

Capital Employed Turnover Ratio (CETR) = Sales/Total Capital Employed

Capital Employed Turnover (CET) = Total of Net Worth + Long Term Liabilities – Deferred Revenue Expenses.

Table 4.13

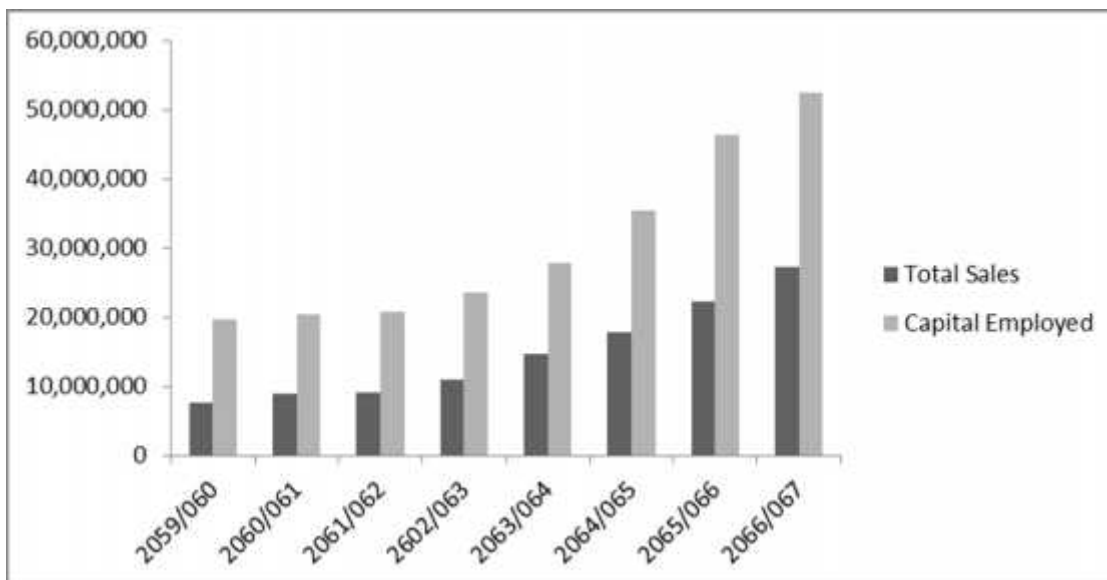
Calculation of CE Turnover Ratio and its Straight Line Trend Equation (Rs. in 000)

Year	Total Sales	Capital Employed	CET Ratio	Straight Line Trend
2059/060	7,669,283	19,587,285	0.3915	0.3965
2060/061	8,855,035	20,450,725	0.4330	0.4219
2061/062	9,194,247	20,707,904	0.4440	0.4473
2602/063	11,058,915	23,549,579	0.4696	0.4727
2063/064	14,751,624	27,854,145	0.5296	0.4981
2064/065	17,889,310	35,343,894	0.5061	0.5235
2065/066	22,257,712	46,280,626	0.4809	0.5489
2066/067	27,221,060	52,504,647	0.5184	0.5665
Average Capital Employed Turnover Ratio			0.4716	

Source: Audited Annual Financial Reports of NTC

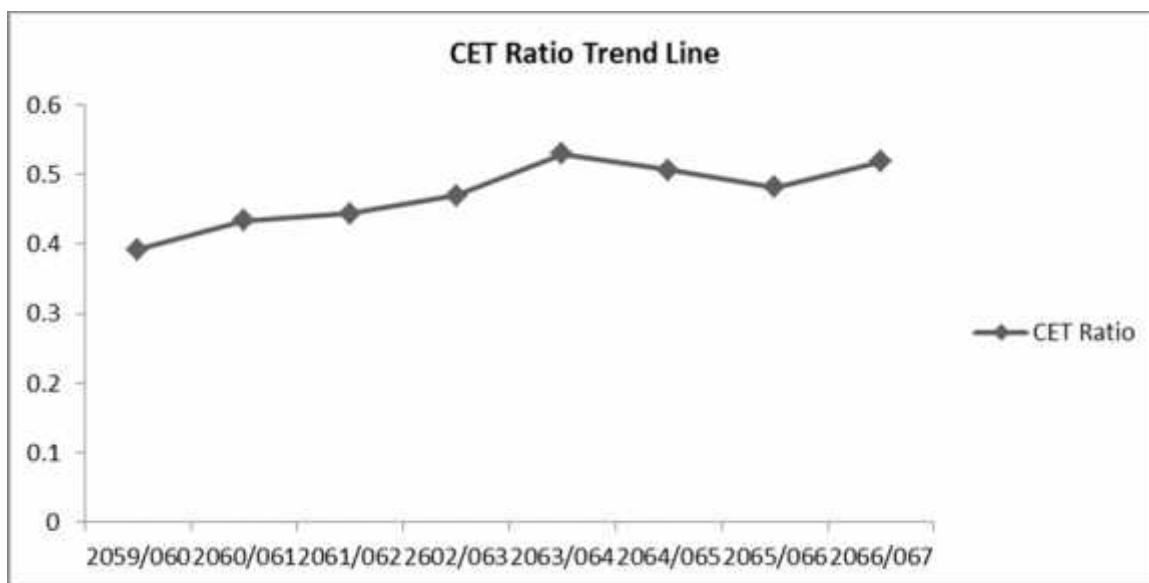
The above table shows that the average of the CET ratio of NTC for past eight years is 0.4716 times which is lower than the general standard average of at least 1.00 times for this type of business. The ratio ranges from the lowest of 0.3915 in the FY 2059/060 BS to the highest of 0.5296 in the FY 2063/064. The average ratio of 0.4716 indicates that each rupee of investment in permanent capital is generating sales of just 47.16 paisa. The overall ratio trend shows a positive movement of the ratio over the eight years period. While comparing with the average, we found that in the first three fiscal years 2059/060, 2060/061, 2061/062; 2062/063 the ratio is lower than the average and for latter FYs 2063/2064, 2064/065; 2066/067 the ratio is higher than the average. The capital employed and total sales are presented in the figure below.

Figure 4.16



Straight line trend presentation of capital employed turnover ratio over the study period is in the figure below.

Figure 4.17



Straight Line Trend of the Ratio is: $Y = 0.4716 + 0.0127x$

When $X = 9$, $Y = 0.5859$ {i.e. Expected CET for next year (Year =9)}

Where,

Y= Estimate of the Capital Employed Turnover Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 0.0127 times per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the volume generated by the permanent capital of the company should increase in coming years. It is good indication for the company.

4.3.3 Leverage Ratios

It measures the solvency position of an organization related to repayment of debt and bearing interest. The short - term creditors like bankers and suppliers of raw materials are more concerned with the firm's current debt paying ability. On the other hand, long term creditors, like debenture holders, financial institutions, etc. are more concerned with the firm's long term financial strength. In fact, a firm should have a strong short as well as long term financial position. To judge the long term financial position of the firm, financial leverage, or capital structure ratios are calculated. These ratios indicate mix of the funds provided by owners and lenders. As a general rule, there should be an appropriate mix of debt and owners equity in financing the firm's assets. The following ratios are studied under this sub unit.

4.3.3.1 Total Debt Ratio (TDR)

The relationship between creditors' funds and total assets is known as debt ratio. This ratio measures the proportion of total assets financed by creditors' funds. This ratio intends to show the long-term financial composition/strength of the company. Higher ratio means high financial risk and lower ratio means not proper utilization of leverage benefit. So, an average position between the two extremes is favorable .It is calculated by dividing total liabilities by total assets.

It is mathematically expressed as

Total Debt Ratio = Total debt / Total assets

Total Debt = Current liabilities + Long term debt

Total Assets= Current Assets + Fixed Assets + Investments + Capital Work in Progress

The total debt ratio along with its straight line trend of NTC for the past eight years period is shown in the following table.

Table 4.14

Presentation of Total Debt Ratio and Its Trend Values (Rs in 000)

Year	Total Assets	Total Debt	TD Ratio	Straight Line Trend Values
2059/060	29,724,632	10,371,127	0.3489	0.3885
2060/061	33,080,440	12,640,965	0.3821	0.3811
2061/062	35,430,582	14,746,917	0.4162	0.3737
2062/063	39,214,958	15,665,380	0.3995	0.3663
2063/064	43,529,299	16,866,834	0.3875	0.3589
2064/065	50,358,333	15,014,439	0.2981	0.3515
2065/066	58,686,688	17,057,666	0.2907	0.3441
2066/067	66,165,710	19,016,110	0.2874	0.3316
Average Total Debt Ratio			0.3513	

Source: Audited Annual Financial Report of NTC

In the above table, total debt to total asset ratio of NTC from the FY 2059/060 to 2066/067 is presented. The total debt of NTC includes the all short term as well as long term loans included in the balance sheet of NTC, presented in the appendix of this thesis. The total assets include the entire assets of NTC shown in the balance sheet. During the FY 2059/060 to 2061/062, the actual value of the ratio is increasing trend and after that it is in decreasing trend. The average ratio for eight years period indicates that the creditors have contributed just around 35 % of the fund requirement of the business. It seems that in recent years the Corporation, recognizing the risk and utilizing the surplus profit, has reduced the debt. Total assets and total debt of NTC are presented in the figure below.

Figure 4.18

Total Assets and Total Debts Relationship

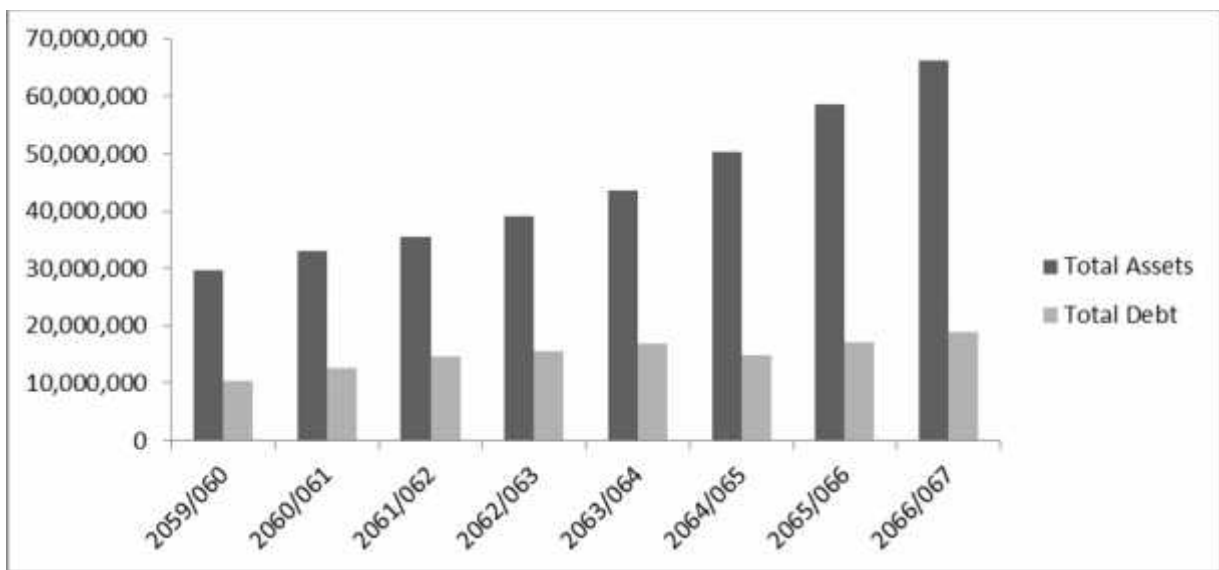
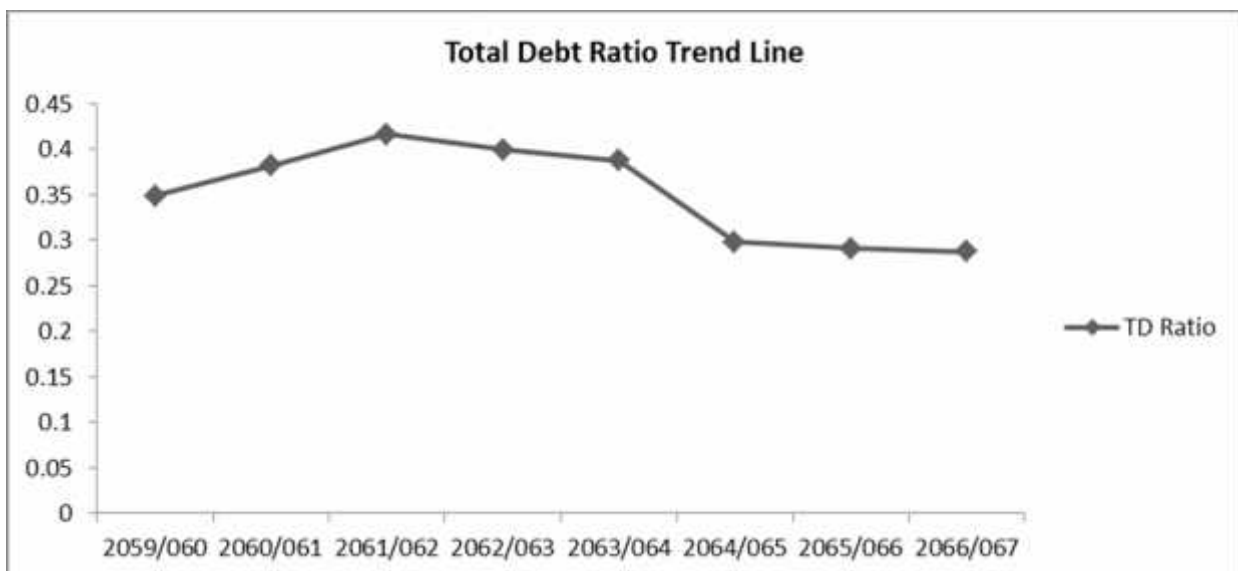


Figure 4.19

Fitting of straight line trend is presented in the figure below.



Straight Line Trend of the Ratio is: $Y = 0.3513 - 0.0037x$

When $X = 9$, $Y = 0.318$ {i.e. Expected CET Ratio for next year (Year =9)}

Where,

Y = Estimate of the Total Debt Ratio

X = Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run negative growth rate of -0.0037 times per year for this ratio. If this ratio is to move as per the fitted trend line in future, the debt would increase so fast that most of the benefits of leverage can be recognized.

4.3.3.2 Debt to Equity Ratio (DE)

Debt to Equity Ratio is another type of measure of financial structure. This ratio shows the position of total debt relative to the owner's capital. This relationship between total debt and net worth shows the outsiders' liabilities as a percentage of owners' capital. There is no exact standard norm of this ratio, but in common practice this ratio will be good for industries of this sort if it is below 1.5:1. This ratio is calculated by dividing total debt by net worth.

Debt Equity Ratio (DE) = Total Debt / Net Worth

Net worth = Total of equity capital + Reserve and surplus – Deferred expenditure

The debt to equity ratio is presented in the table below.

Table 4.15

Calculation of Debt Equity Ratio and Its Straight Line Trend (Rs. in 000)

Year	Equity Capital	Total Debt	Debt To Equity Ratio	Straight Line Trend
2059/060	16,761,248	10,371,127	0.6187	0.6795
2060/061	20,439,475	12,640,965	0.6184	0.6517
2061/062	20,683,665	14,746,917	0.7129	0.6239
2062/063	23,549,579	15,665,380	0.6652	0.5961
2063/064	26,662,465	16,866,834	0.6326	0.5683
2064/065	35,343,894	15,014,439	0.4248	0.5405
2065/066	41629021	17057666	0.4097	0.5231
2066/067	47149599	19016110	0.4033	0.4561
Average			0.5607	

Average Debt To Equity Ratio 0.6121

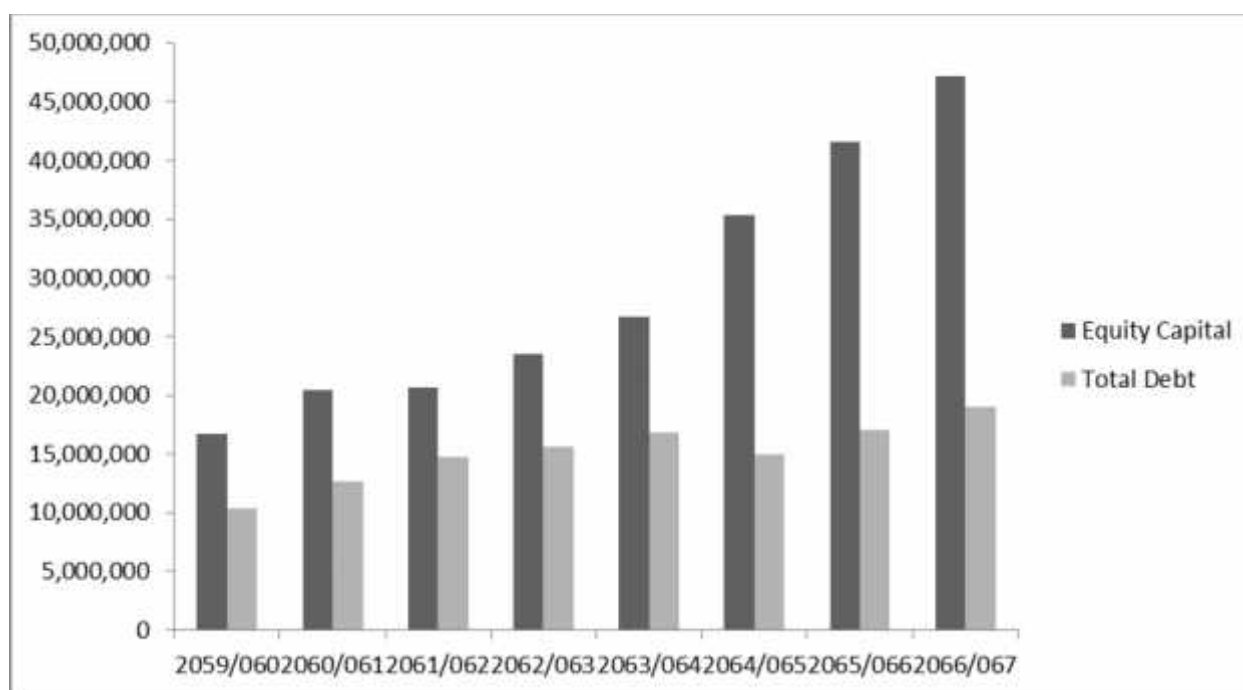
Source: Audited Annual Financial Reports of NTC

The above table shows that the total debt to net worth ratio of NTC is dual trend as first three years it is increasing and latter years it is decreasing. This increase indicates that the organization deliberately wants to increase its financial leverage/risk and shows the

management's attitude to content with lever up the capital structure of the organization and vice versa. The ratio ranges from a higher of 0.7129 in the FY 2061/062 to a lower of 0.4033 in the FY 2066/067. The average is 0.5607 which means that for each rupee of equity holder's money, the debt holder's have contributed 56.07 paise to finance the firm's operation.

This ratio is almost on average in initial two years and higher than the average in latter three years and below the average in last year of the study periods. The average of this ratio over the study period is clearly much lower than the general industry norm of 1.5:1. It means the organization wants to reduce its financial leverage or risk because it has been earning huge profit year by year. The total debt and equity are depicted in the figure given below.

Figure 4.20



4.3.3.3 Long Term Debt to Capital employed ratio (LTD TO CE)

This ratio shows the relationship between long term debt and total capital. Total capital includes the shareholder's equity as well as long term debt. Total capitalization of the firm is not merely with the net worth. The total capitalization or capital employed includes the total explicit cost bearing debt (long term) and shareholders' equity. This Ratio is computed by dividing LTD by CE. It is expressed as

$$\text{Long Term Debt to Capital Employed Ratio} = \frac{\text{Long Term Debt}}{\text{Capital Employed}}$$

$$\text{Capital Employed} = \text{Long Term Debt} + \text{Net Worth}$$

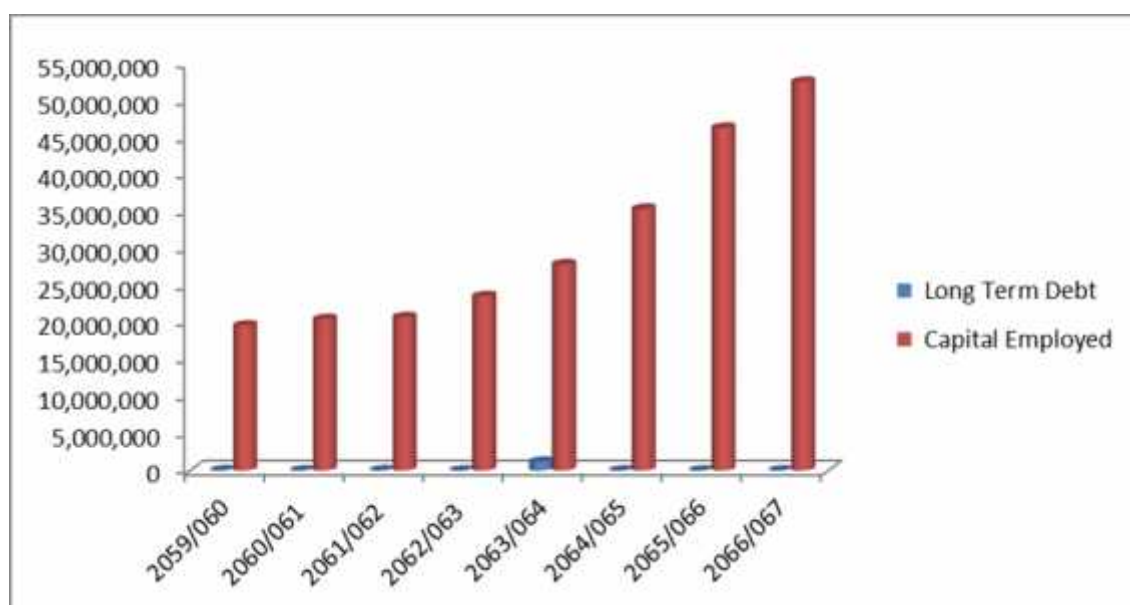
The table given below shows the LTD to CE ratio of NTC for eight years of study period.

Table 4.16**Calculation of Long - Term Debt to Capital Employed Ratio (Rs in 000)**

Year	Long Term Debt	Capital Employed	LTD to CD Ratio
2059/060	23,378	19,587,285	0.0012
2060/061	11,250	20,450,725	0.00055
2061/062	24,239	20,707,904	0.0012
2062/063	0	23,549,579	0
2063/064	1,191,680	27,854,145	0.0428
2064/065	0	35,343,894	0
2065/066	0	46,280,626	0
2066/067	0	52,504,647	0
Average LTD to CE ratio			0.007625

Source: Audited Annual Financial Reports of NTC

The ratio shows very nominal figure over time except in FY 2063/064 i.e. 0.0428. The average ratio of 0.7625 % implies that out of total capitalization, only about 0.7625% is financed by permanent debt sources and remaining by equity fund. This may imply a good margin of safety to the company lenders point of view. But, from the view point of the owners, the reduction in this ratio position signifies that the company is not properly utilizing the benefits of the leverage for magnifying the return to the stockholders. The long term debt and capital employed are presented in the figure below.

Figure 4.21

The above figure gives the clear picture about not getting leverage benefits from using debts.

4.3.3.4 Interest Coverage Ratio (ICR)

This ratio indicates the ability of a firm to pay interest charge on its borrowed capital. Interest coverage (IC) ratio is one of the most important ratios used to test the firm's debt- servicing capacity. This ratio is computed by dividing EBIT by interest expenses. This ratio, as the name implies shows how many times the interest charges are covered by EBIT. A higher IC ratio is desirable, but too high indicates that firm is conservative in using debt and firm is not using enough creditors' securities to the best advantage of shareholders. A lower IC ratio indicates excessive use of debt or inefficient/weak operational profit. This ratio for NTC for the period of FY 2059/060 to 2066/067 is calculated as follows.

Interest Coverage Ratio = EBIT / Interest

Interest = Interest on borrowings + Interest on Subscriber Deposits.

Table 4.17

Calculation of IC Ratio and its Straight Line Trend Equation (Rs in 000)

Year	EBIT	Interest Expenses	IC Ratio	Straight Line Trend
2059/060	3,155,250	94800	33.28	34.7
2060/061	4,097,820	89,943	45.56	52.5
2061/062	4,369,108	57,732	75.68	70.3
2062/063	6,263,512	65,045	96.29	88.1
2063/064	7,266,160	67,143	108.22	105.9
2064/065	10,837,633	93,307	116.15	123.7
2065/066	13,682,054	48,065	284.65	141.5
2066/067	14,489,760	48,665	297.74	179.75
Average IC Ratio			132.198	

Source: Audited Annual Financial Reports of NTC

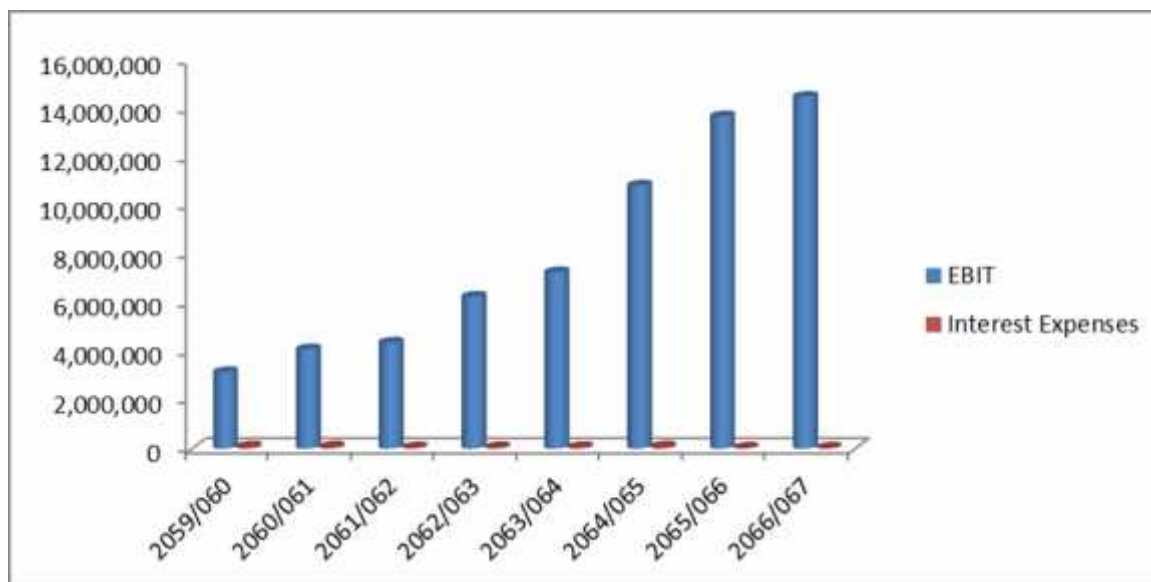
The above table shows the interest coverage ratio of NTC over the study periods. It seems that the organization has excellent and all time increasing coverage ratios over the period i.e. the debt servicing capacity of NTC seems quite favorable. But this is a good performance because the organization is reducing its use of long term debt over the years so fast that the fixed interest burden of the organization becomes almost negligible in the most recent year. The average interest coverage ratio is 132.198 times which implies that NTC has been able to cover the interest expenses by a good margin of safety of 132.198%. The EBIT includes only operating revenues out of total revenue.

During the study period, the ratio ranged from a minimum of 33.28 times in the FY 2059/060 to a maximum of 297.74 times in the FY 2066/067. In last three years, there has been

remarkable improvement in coverage ratio but this all is more because of dwindling interest expenses rather than excellent operating profits. So, the performance of the firm in terms of interest coverage ratio should be judged cautiously in this case. It shows that the company has been able to use the interest bearing funds. The interest in relation to earning before interest and taxes is presented in figure below.

Figure 4.22

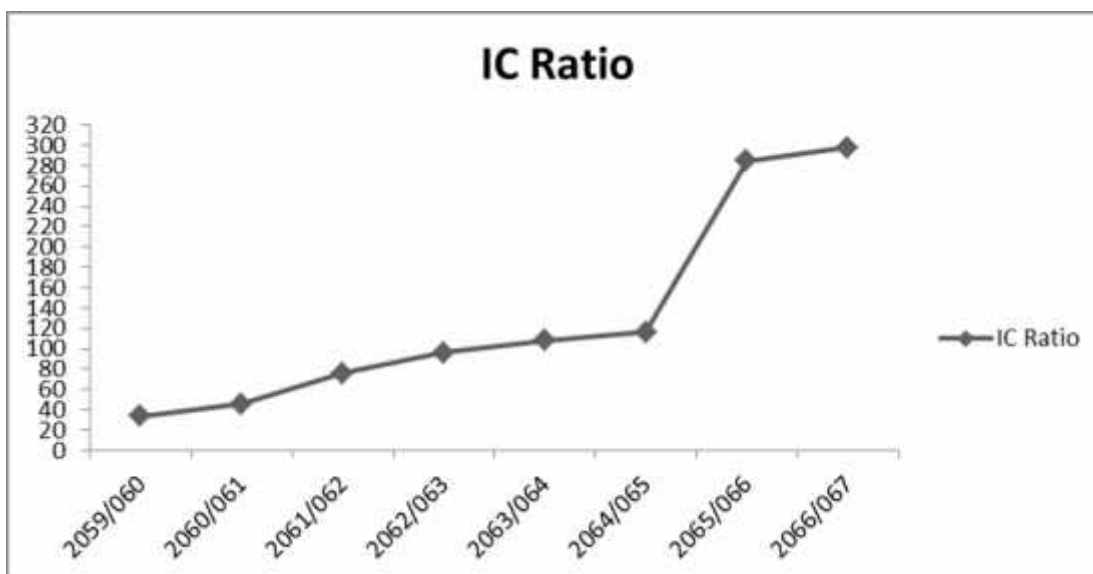
EBIT and Interest Expenses



The above figure shows a very nominal portion of interest in relation to EBIT. Presentation of Interest Coverage Ratio trend line over the study period is given below.

Figure 4.23

IC Ratio Trend Line



Straight Line Trend of the Ratio is $= 132.2 + 8.9x$

When $X = 9$, $= 212.3$ {i.e. Expected IC Ratio for next year (Year = 9)}

Where,

Y= Estimate of the Interest Coverage Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run sizeable positive growth rate of 8.9 times per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the debt servicing ability of the firm would be effective in coming years. Continuous sharp reduction in long term debts over the study periods followed steady increase in operating income over the same periods has primarily caused interest coverage ratio to increase fast over the study period.

4.3.4 Profitability Ratios

Maximization of profit is the main objective of each and every business concern. A company should earn profits to survive over a long period of time. Therefore, profits are essential for a company. But, then, it does not mean that every action initiated by management of a company should be aimed at maximizing profits. The social consequence of the actions does also matter. So, maximum profit consistent with social responsibility should be the long run objective. It is unfortunate that the word 'profit' is looked upon as a term of abuse since some firms always want to maximize profits against the cost of employees, customers and society. Except such infrequent cases, it is a fact that sufficient profits must be earned to sustain the operation of the business, to be able to obtain funds from investors for expansion and growth and to contribute towards the social overheads for the welfare of the society.

Profit is the difference between revenues and expenses over a period of time. Profit is the ultimate 'output' of a company, and it will have no future if it fails to make sufficient profits. Therefore, the financial manager should continuously evaluate the efficiency of the company in terms of profits. The profitability ratios are calculated to measure the operating efficiency of the company. Creditors and owners both are interested in the profitability of the firm. If the company is making profits regularly, creditors will also be assured of getting their dues on time. The owners ultimately get return if the huge profit exist otherwise they are compelled to wind up the business if the company is regularly fail to make profit. The following ratios are studied to measure the operating efficiency in terms of profitability.

4.3.4.1 Net Profit Margin (NPM)

The net profit margin measures the relationship between profit and sales and indicates management's efficiency in manufacturing, administering and selling the product. This ratio is the overall measure of the firm's ability to turn each rupee sales into net profit. A high net

profit margin would ensure adequate return to the owners as well as enable the firm to survive in adverse economic conditions. A low net profit margin has the opposite implications. The net profit margin is measured by dividing profit after taxes by sales. Sales include operating sales revenue and non operating revenue. It is mathematically denoted by

$$\text{Net Profit Margin} = \text{Net Profit after Tax} / \text{Sales Revenue}$$

Table 4.18

Calculation of Net Profit Margin Ratio and its Straight Line Trend (Rs. in 000)

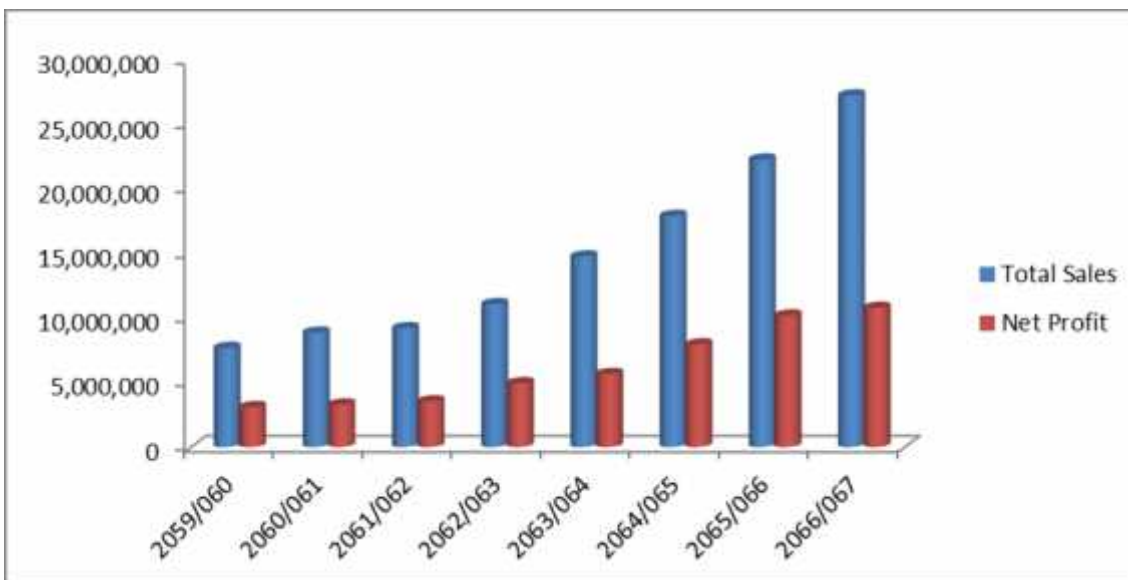
Year	Total Sales	Net Profit	NPM Ratio	Straight Line Trend
2059/060	7,669,283	3,087,782	0.4026	0.3840
2060/061	8,855,035	3,290,117	0.3715	0.3926
2061/062	9,194,247	3,542,461	0.3853	0.4012
2062/063	11,058,915	4,936,647	0.4464	0.4098
2063/064	14,751,624	5,652,688	0.3832	0.4184
2064/065	17,889,310	7,942,902	0.4440	0.4270
2065/066	22,257,712	10,178,024	0.4572	0.4356
2066/067	27,221,060	10,775,154	0.3958	0.4472
Average NPM Ratio			0.4107	

Source: Audited Annual Financial Reports of NTC

The above table shows that the average of the NPM ratio of NTC for past eight years is 0.4107 or 41.07% which is higher than the general standard average of at least 25% for this line of business. The ratio seems to be stable barring over the study period. The average ratio of 0.4107 times indicates that each rupee sales is contributing 0.4107 paisa for rewarding the owners. The overall ratio trend shows a small swing in either direction of the ratio within the ranged of 45.72% to 37.15% over eight years period. The computations show that the net profit margin upon sales is favorable. This ratio indicates the creditors are also willing to provide credit if required. Nowadays it has becoming a most tax payer to the government as well as it has occupying the leading position in telecommunication services. Total sales and net profit margin are presented in the figure below.

Figure 4.24

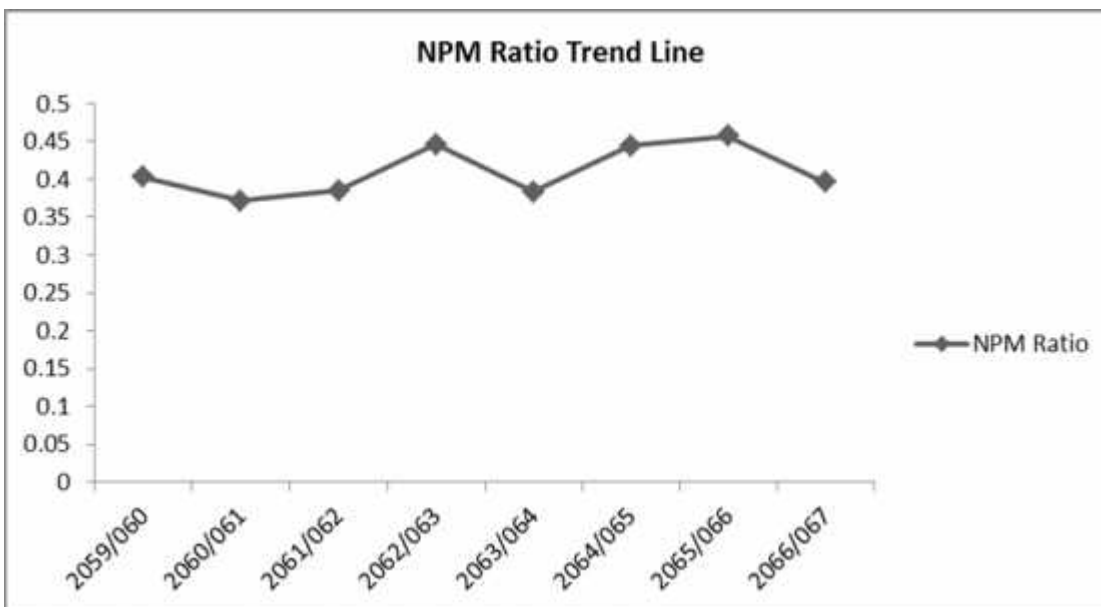
Total Sales and Net Profit Relationship



The above figure also clears the net profit margin and its proportion in relation to total sales is very consistent and steady over the study period.

The net profit margin ratio and its straight line trend are presented in the figure below.

Figure 4.25



Straight Line Trend of the Ratio is $Y = 0.4107 + 0.0043x$

When $X = 9$, $Y = 0.4494$ {i.e. Expected NPM for next year (Year=9)}

Where,

Y= Estimate of the Net Profit Margin Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run negligible

positive growth rate of 0.0043 per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the profit margin level of the company in coming years should remain at stable to the firm currently earning. If the company improves its network problems the company can stand on better position in the future.

4.3.4.2 Operating Expenses Ratio (OE)

This ratio shows the relation between operating expenses and sales value. Operating expenses constitute service/product costs, administrative costs, employees cost, operation and maintenance cost, selling costs, royalties, licenses fees etc. It excludes bonus and incentive provision and contribution for rural fund in 2063/064 and 2064/065. The Operating expenses ratio indicates the average aggregate variation in expenses. In general, higher operating expenses ratio means inefficiency due to higher operating cost relative to sales revenue. A lower operating expenses ratio is favorable since it will leave a higher amount of operating income to meet interest, taxes, bonus, dividend and plough back of profit in the firm. It is measured by dividing operating expenses by sales revenues. Sales revenues constitute operating and non operating revenues.

Operating Expenses Ratio (OE) = Operating Expenses / Sales Revenue

Table 4.19

Calculation of Operating Expenses Ratio and its Straight Line Trend (Rs. in 000)

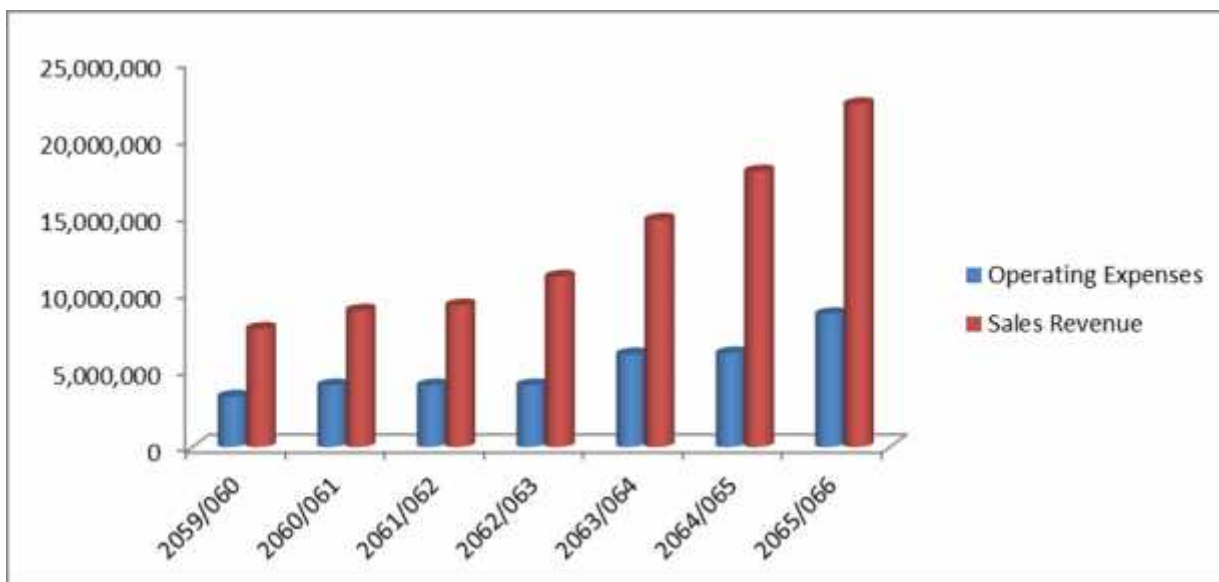
Year	Operating Expenses	Sales Revenue	OERatio	Straight Line Trend
2059/060	3,258,571	7,669,283	0.4249	0.4481
2060/061	3,992,850	8,855,035	0.4509	0.4301
2061/062	3,991,057	9,194,247	0.4341	0.4122
2062/063	4,002,727	11,058,915	0.3619	0.3942
2063/064	6,013,405	14,751,624	0.4076	0.3763
2064/065	6,076,135	17,889,310	0.3397	0.3583
2065/066	8623724	22257712	0.3874	0.3404
2066/067	12779972	27221060	0.4695	0.3292
Average Operating Ratio			0.4095	

Source: Audited Annual Financial Reports of NTC

The above table shows that the average operating expenses ratio of NTC for past eight years is 40.95% which is lower than the general standard average of around 50% for this line of business. . The ratio seems to be fluctuating but in favorable state as it ranges from a lower of 33.97% in the FY 2064/065 to 46.95% in the FY 2066/067. The average ratio of 40.95% indicates that the firm incurs a cost of 40.95 paisa for each rupee of sales it generates. Comparing the ratio between 2059/060 and 2066/067, the ratio is above the average in the first three years and below or around the average in the latter three years.

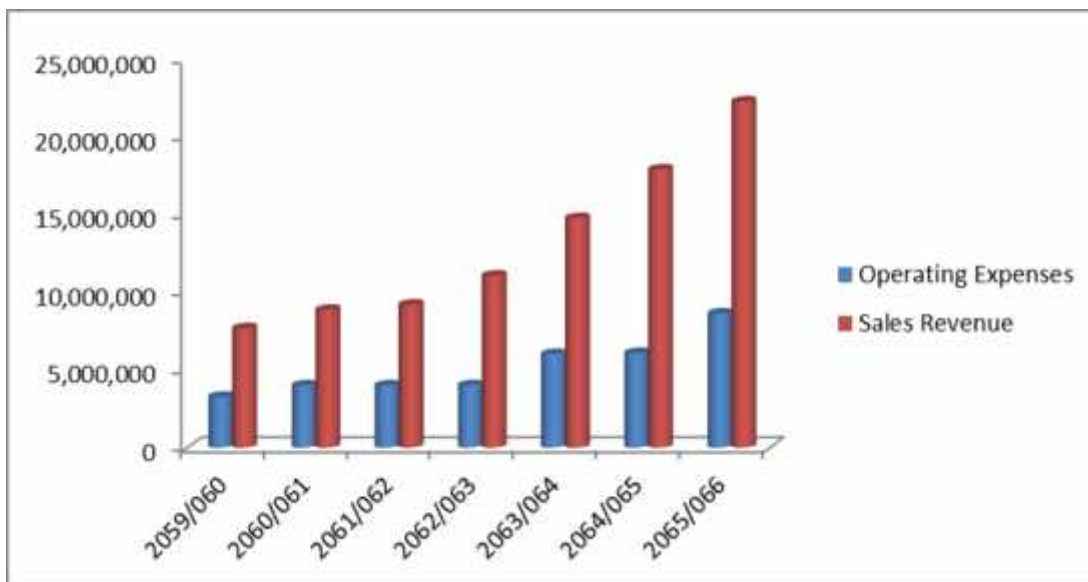
It shows the company is performing well in the recent year in comparison to sales revenue resulting from operating costs even though the competition is increasing between private organizations in the same line business. In this situation the company should increase its sales volume through diversified products with quality service. Unless the firm takes measures to reap the operating profit, the situation may go out of control. The operating expenses and sales revenue are presented in the figure below.

Figure 4.26
Operating Expenses and Sales Revenue Relationship



The straight line trend is presented in the following figure.

Figure 4.27



Straight Line Trend of the Ratio is: $= 0.4095 - 0.00897 x$

When $X = 9$, $= 0.3287$ {i.e. Expected OE Ratio for next year (Year = 9)}

Where,

Y= Estimate of the Operating Expense Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run negative growth rate of - 0.00897 per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the cost of operation of NTC should decrease slowly.

Continuous increase in input prices due to inflation and the security situation not accompanied by the equal sales increase has brought this position. The decrease in the operating expenses ratio is good indication for the company with viewpoint of profit.

4.3.4.3 Return on Assets (ROA)

This ratio establishes the relationship between net profit and total assets. The ROA is also called return on investment (ROI). The conventional approach of calculating ROA/ ROI is to divide NPAT by investment/assets. Assets represent pool of funds supplied by shareholders and lenders, while NPAT represents residue income of the owners. Therefore, it is conceptually unsound to use NPAT in the calculation of ROA. Secondly, NPAT is affected by the capital structure. It is therefore more appropriate to use the following formula to compute the ROA/ROI.

Return on Assets = (NPAT + Interests) / Total assets

NPAT = Net profit after tax

Total Assets = Current Assets + Fixed Assets.

Table 4.20

Calculation of ROA Ratio and its Straight Line Trend Equation (Rs. in 000)

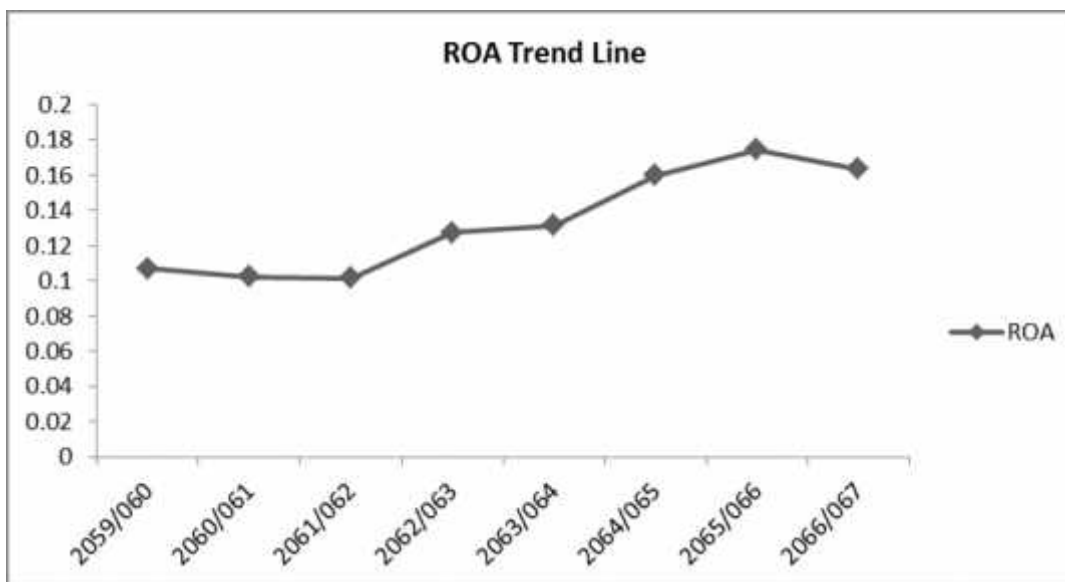
Year	NPAT	Interest	NPAT + Interest	Total Assets	ROA	Straight Line Trend
2059/060	3,087,782	94,800	3,182,582	29,724,632	0.1071	0.0946
2060/061	3,290,117	89,943	3,380,060	33,080,440	0.1022	0.1054
2061/062	3,542,461	57,732	3,600,193	35,430,582	0.1016	0.1162
2062/063	4,936,647	65,045	5,001,692	39,214,958	0.1275	0.1270
2063/064	5,652,688	67,143	5,719,831	43,529,299	0.1314	0.13780
2064/065	7,942,902	93,307	8,036,209	50,358,333	0.1596	0.1486
2065/066	10,178,024	48,065	10,226,089	58,686,688	0.1742	0.1594
2066/067	10,775,154	48,665	10,823,819	66,165,710	0.1635	0.1723
Average ROA					0.1334	

Source: Audited Annual Financial Reports of NTC

The above table shows that the average ROA of NTC for the study period is 13.34%. The ratio

seems to be flatly stable as it ranges from 10.16% in the FY 2061/062 to 17.42% in the FY 2065/066. Its trend shows a slow upward movement during the latter three years of study periods. The average ROA of 13.34% indicates a rupee invested in the assets is generating profit of 0.1334 paisa. The higher ratio implies that the company is utilizing its assets efficiently. The efficient utilization of assets can generate a higher return for its owners. The trend of ROA over the study period is presented in the figure below.

Figure 4.28



Straight Line Trend of the Ratio is: $Y = 0.1334 + 0.0054x$

When $X = 9$, $Y = 0.182$ {i.e. Expected ROA Ratio for next year (Year =9)}

Where,

Y= Estimate of the Return on Assets Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run growth rate 0.0054 per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the total assets return level of the company should further increase, albeit slowly, in the coming years. Continuous expansion of its assets over the recent years followed by marginal increase/decrease net profit of the organization over the most recent years has primarily caused the ROA to take this trend. The ratio trend shows the upward movement of return over the assets invested by the company that is good for the company.

4.3.4.4 Return on Capital Employed (ROCE)

The relationship between the after tax return earned by both equity holder and lender and the capital they provided indicates the efficiency of management for capital utilization. The ratio is similar to the ROA except in one respect. Here the profits are related to capital employed.

The funds employed in net assets or the funds financed by permanent sources are known as capital employed. This ratio shows effectiveness of management in generating profit by the utilization of available capital. A higher ratio is an indication of better utilization of capital employed. Hence, higher ratio is preferable for the company. It is denoted by

$$\text{ROCE} = (\text{NPAT} + \text{Interests}) / \text{Capital Employed}$$

Table 4.21

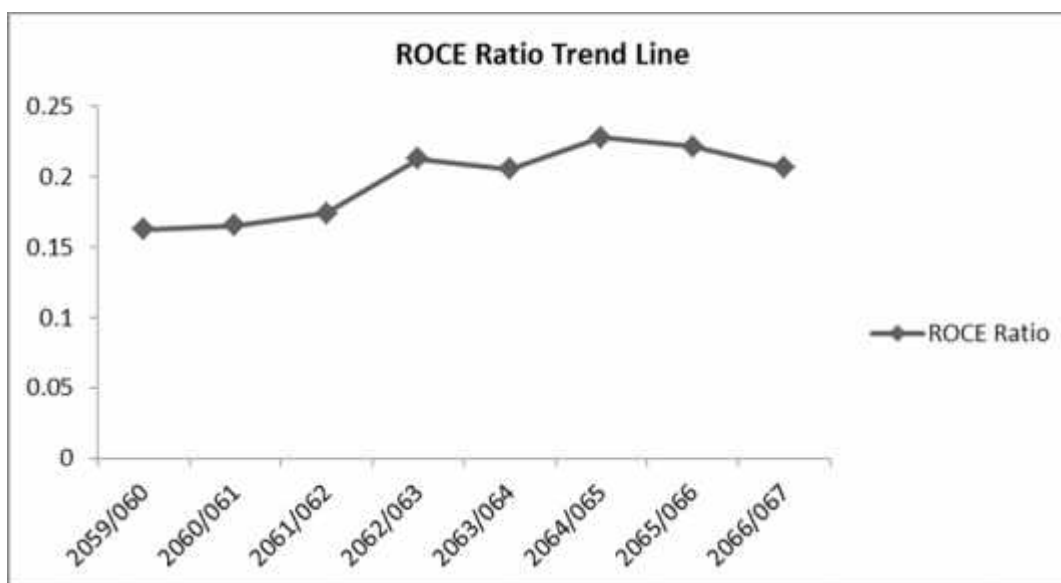
Calculation of ROCE Ratio and its Straight Line Trend Equation (Rs. in 000)

Year	NPAT + Interest	Capital Employed	ROCE Ratio	Straight Line Trend
2059/060	3,182,582	19,587,285	0.1625	0.1566
2060/061	3,380,060	20,450,725	0.1653	0.1704
2061/062	3,600,193	20,707,904	0.1738	0.1842
2062/063	5,001,692	23,549,579	0.2124	0.1980
2063/064	5,719,831	27,854,145	0.2053	0.2118
2064/065	8,036,209	35,343,894	0.2274	0.2256
2065/066	10,226,089	46,280,626	0.2209	0.2394
2066/067	10,823,819	52,504,647	0.2061	0.2506
Average ROCE			0.1967	

Average ROCE 0.1911

Source: Audited Annual Financial Reports of NTC

The above table shows that the average ROCE of NTC for the study period is 19.67% as in the case with ROA; this is good if we compare this return with the cost of debt. The past trend of this ratio does show very clear upward movement from 16.25% in the FY 2059/060 to 22.74% in the FY 2064/065. Therefore, it can be safely said that the return to the long term stakeholders are better than the return earned by its assets assuming that cost of the short-term sources are negligible. The average ratio of 19.67% indicates that each rupee of long term fund employed by the organization is generating after tax profit of 19.67 paisa. The higher ratio of return over capital employed indicates the long term capital has been utilized efficiently and resources have been allocated with the optimum level. The ROCE ratio trend over the study period is depicted in the figure given below.

Figure 4.29

Straight Line Trend of the Ratio is: $Y = 0.1967 + 0.0069x$

When $X = 9$, $Y = 0.2526$ {i.e. Expected ROCE Ratio for next year (Year = 9)}

Where,

Y = Estimate of the ROCE Ratio

X = Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run negligible positive growth rate of 6.9 % per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the return level of the long term capital employed by the company should increase marginally in coming years. The company can use the long term debt more aggressively in the coming year if required.

4.3.4.4 Return on Equity (ROE)

This ratio is the ratio of net profit to common shareholders' equity. The return on shareholder's equity (ROSE) {or simply Return on Equity (ROE)} indicates how well the company's management is able to provide return to its owners. The return on common stock is not fixed. The residue of the earnings on which the stockholders have claim, may be distributed to them or retained in the business. Nevertheless, the net profit after taxes represents their return. The shareholders' equity includes the total of equity capital, reserve & surplus minus deferred expenditure. ROE is regarded as an important measure because it reflects the productivity of shareholders' capitals well as the operational efficiency of management. It is mathematically denoted by

Return on Equity (ROE) = Net profit after tax (NPAT) / Net Worth

Net worth = Equity Capital + Reserves and Surplus + Retained Earnings – Deferred Revenue Expenditures

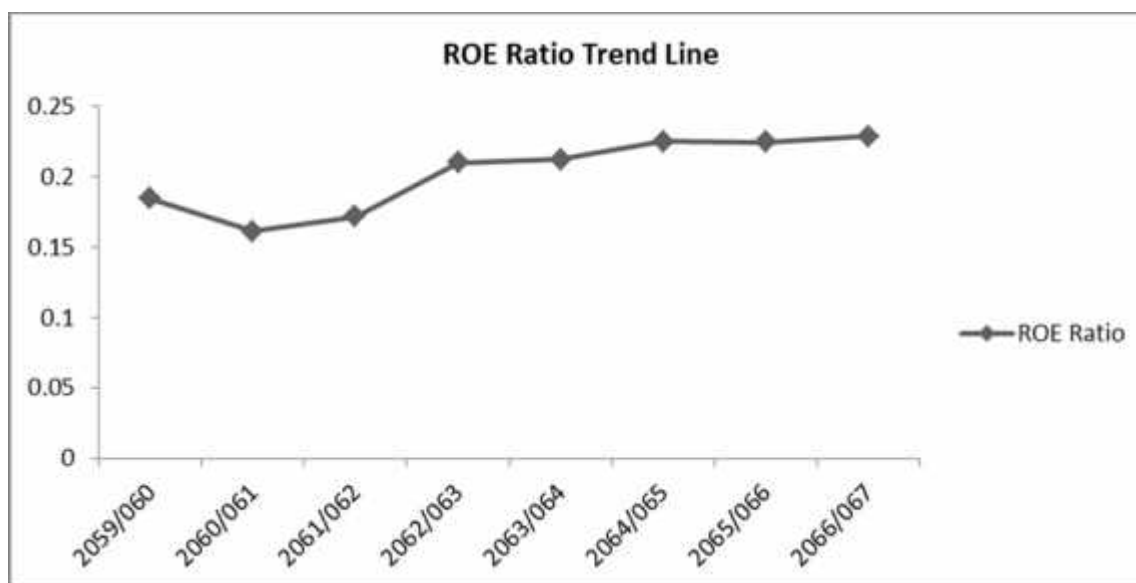
Table 4.22**Calculation of ROE Ratio and its Straight Line Trend Equation (Rs. in 000)**

Year	NPAT	Net Worth	ROE Ratio	Straight Line Trend
2059/060	3,087,782	16,761,248	0.1842	0.1656
2060/061	3,290,117	20,439,475	0.1609	0.1769
2061/062	3,542,461	20,683,665	0.1713	0.1881
2062/063	4,936,647	23,549,579	0.2096	0.1994
2063/064	5,652,688	26,662,465	0.2120	0.2107
2064/065	7,942,902	35,343,894	0.2247	0.2219
2065/066	10,178,024	41,629,022	0.2244	0.2332
2066/067	10,775,154	47,149,599	0.2285	0.2431
Average ROE Ratio			0.2019	

Source: Audited Annual Financial Reports of NTC

The above table shows that the ROE of NTC for past eight years. The average ratio for the eight year period is 20.19% which indicates that the equity holders of NTC earned 20.19 paisa of return on their investment of Rs 1.00 over the last eight years on an average. It is obvious from the table that after the initial 3 years of the study period, the average ROE for the final 3 years has been satisfactory movement toward positive or above the average and increasing trend. NTC has to take measures to make the ratio more stable in future which should increase the confidence of the owners in such competitive world. The owners can be given a good return against their investment.

The trend of the ROE over the study period is presented in the figure below.

Figure 4.30

Straight Line Trend of the Ratio is: $= 0.2019 + 0.00563 x$

When $X = 9$, $= 0.2525$ {i.e. Expected ROE Ratio for next year (Year = 9)}

Where,

Y= Estimate of the Return on Equity Ratio

X= Measure of time when base year 2059/060 = 1

The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 5.63% per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the equity holders' return would further go slightly upward from its current level. If this trend continues the company's goodwill will be high in this line of business. In this situation, the company can go aggressively in the future investment through equity capital.

4.4 Statistical Analysis

Statistical analysis is the process of using various statistical tools to establish a relationship between the variables. The statistical relationship is used to estimate the unknown value of an independent variable with the help of a given value of dependent variable. The statistical analysis uses the several statistical tools to make the data relevant and meaningful in order to make managerial decisions. They are measures of central tendency, measures of dispersion, correlation and regression analysis and so on. The correlation and regression analysis is widely used in the business management as a statistical tool that helps the management to take the important decisions.

4.4.1 Correlation and Regression Analysis

There are various external and internal variables that affect business decisions. The variables may be interrelated and they can affect collectively or individually in the business decision. When the variables are interrelated to each other it is essential to know their relationship and degree of effect to each other. Correlation analysis intends to measure the relationship between two variables. This analysis describes not only the magnitude of relationship but also its direction. But Regression Analysis intends to use the relationship between the known variables and the unknown variables to estimate and predict the values of unknown one with the help of known variable's magnitude of effect on the unknown variable.

Correlation & Regression analysis of Gross Domestic Product (GDP) and Sales Revenue, Investment (Total Asset) and Profit, Sales Revenue and Total Cost and Profit and Sales Revenue are presented in this study.

4.4.1.1 Correlation & Regression Analysis of Gross Domestic Product (GDP) and Sales Revenue

The relationship between Gross Domestic Product (GDP) and Sales Revenue is measured and tested by Karl Pearson's Co-efficient of Correlation. A positive correlation here would imply that the company maintains a stable growth in its revenue with the growth in the economy as a

whole. Insignificant or negative value would point out the weakness of management to expand and grow the organization in the tune of the economic growth. The regression equation would develop a function using which can be predicted what the likely sales revenue will be in the coming years with a given GDP estimates. The calculation of this correlation and regression equation is shown as follows:

Table 4.23

Computation of Correlation & Regression Co-efficient between GDP & Sales Revenue (Rs. in ten millions)

Year	Sales (Y)	GDP (X)
2059/060	76.6928	4594.87
2060/061	88.55035	4810.04
2061/062	91.9429	4980.27
2062/063	110.5892	5144.853
2063/064	147.5762	5316.823
2064/065	178.8931	5601.238
2065/066	222.5771	5866.837
2066/067	272.2106	6731.728

Source: Audited Financial Reports of NTC & Economic Survey FY 2066/067 BS, Ministry of Finance, and Nepal Rastra Bank Report 2010

Here,

GDP (X)	u=(X-5144.853)	u ²	Sales (Y)	v=(Y-110.5892)	v ²	uv
4594.87	- 549.983	302481.30	76.6928	- 33.8964	1148.966	18642.444
4810.04	- 334.813	112099.745	88.55035	- 22.039	485.711	7378.944
4960.27	- 184.583	34090.884	91.9429	- 18.6463	347.684	3441.79
5144.853	0	0	110.5892	0	0	0
5316.823	171.97	29573.681	147.5162	36.927	1363.603	6350.336
5601.238	456.385	208287.27	178.8931	68.304	4665.423	31172.921
5866.837	721.984	521260.89	222.5771	111.987	12541.088	80852.822
6731.728	1586.875	2518172.26	272.2106	161.621	26121.347	256472.32
	u = 1867.835	u ² =3725966.03		v = 304.2573	v ² =46673.822	uv=404311.577

We know that,

The Correlation Coefficient between two variables is given by

$$r_{xy} = r_{uv} = \frac{n \sum uv}{\sqrt{n \sum u^2} \sqrt{n \sum v^2}}$$

$$= \frac{8 \mid 404311.577 \mid 304.2573 \mid 1867.835}{\sqrt{8 \mid 3725966.03} \sqrt{8 \mid 46673.822}}$$

$$= \frac{2666190.182}{5130.19 \times 529.92}$$

$$= 0.980$$

For Test of significant

We know that,

$$\text{Probable Error (P.E.) } 0.6745 \times \frac{1Zr^2}{\sqrt{n}} = 0.6745 \times \frac{1Z(0.980)^2}{\sqrt{8}} = 0.00947$$

$$\text{Now } 6 \text{ P.E.} = 6 \times 0.00947 = 0.0568$$

Which is less than r_{xy} , hence r is significant.

The value of r is found to be 0.980 which means that there exists a high degree of positive correlation between GDP and Sales Volume i.e. the two variables increase/decrease strongly in the same direction. The value of r is far greater than 6 times the probable error, which means that there is clear evidence of significant association between these two variables. The computed value of r indicates a cause and effect relationship.

Also Regression coefficient of y on x is

$$b_{yx} = \frac{n \sum uv - \sum u \sum v}{n \sum u^2 - (\sum u)^2} = \frac{2666190.182}{26318746.83} = 0.101$$

& Regression coefficient of x on y is

$$b_{xy} = \frac{n \sum uv - \sum u \sum v}{n \sum v^2 - (\sum v)^2} = \frac{2666190.182}{280815.206} = 9.494$$

Hence the regression equation of Sales (Y) on GDP (X) is given by

$$= a + 0.101 X$$

The value of b is found to be 0.101 which means that 1 unit change in GDP would result in 0.101 unit change in the sales revenue of NTC. Given the forecast of GDP of the country for future by the economists, above developed equation can be used to estimate what the revenues of the NTC would likely to be in the coming years and plan accordingly for future sales.

4.4.1.2 Correlation & Regression Analysis of Investments (Total Assets) and Profit

The relationship between Investment and Profit is measured and tested by Karl Pearson's Coefficient of Correlation. A positive correlation here would imply that the company maintains a stable growth (or decline) in its profit in line with its investment increase (or decrease). Insignificant or negative value would point out the weakness of management to keep the profit in line with the investments i.e. it points to the fact that the company's expansion may not be yielding desirable results. The Regression Equation would develop a function using which we can predict what the size of profit would be in the coming years with a planned additional investment in assets. The calculation of this Correlation and Regression Equation is shown as follows:

Table 4.24

Computation of Correlation & Regression Co-efficient between Investment (Total Assets) & Profit (Rs. in ten million)

Year	Total Assets(X)	Profit (Y)	X ²	Y ²	XY
2059/060	297.24632	30.87782	88355.37	953.44	9178.32
2060/061	330.80440	32.90117	109431.55	1082.49	10883.85
2061/062	354.30582	35.42461	125532.61	1254.90	12551.15
2062/063	392.14958	49.36647	153781.29	2437.05	19359.04
2063/064	435.29299	56.52688	189479.99	3195.29	24605.75
2064/065	503.58333	79.42902	253596.17	6308.97	39999.13
2065/066	586.88688	101.78024	344412.73	10359.21	59731.45
2066/067	661.65710	107.75154	437790.11	11610.39	71294.57
	X= 3561.92642	Y = 494.05775	X ² = 1702379.82	Y ² = 37201.74	XY = 247603.26

Source: Audited Annual Financial Reports of NTC

We know that,

The Correlation Coefficient between two variables is given by

$$r_{xy} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{8 \mid 247603.26 - 3561.92 \mid 494.06}{\sqrt{8 \mid 1702379.82 - 12687319.82} \sqrt{8 \mid 37201.74 - 244095.28}}$$

$$= \frac{221028.72}{223325.68}$$

$$= 0.9897$$

For Test of significant

We know that,

$$\text{Probable Error (P.E.)} = 0.6745 \times \frac{1Zr^2}{\sqrt{n}} = 0.6745 \times \frac{1Z(0.9897)^2}{\sqrt{8}} = 0.00488$$

$$\text{Now } 6 \text{ P.E.} = 0.00488 \times 6 = 0.02928$$

Which is less than r_{xy} , hence r is significant.

The value of r is found to be 0.9897 which implies that there exists a high degree of positive correlation between total investments and total profit. This means these two variables move in the same direction; i.e. if total investment increases then total profit also increase and vice versa.

The value of r is greater than 6 times the probable error and higher than +0.5; means that there is significant degree of positive correlation between the variables i.e. the value of r is significant.

Hence, the relationship between total investments and total profit is that of a cause and affect one.

Also Regression coefficient of y on x is

$$b_{yx} = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2} = \frac{221033.766}{931906.41} = 0.237$$

& Regression coefficient of x on y is

$$b_{xy} = \frac{n \sum XY - \sum X \sum Y}{n \sum Y^2 - (\sum Y)^2} = \frac{2231033.766}{53518.195} = 4.13$$

Hence the regression equation of Profits (Y) on Investments (X) is given by

$$= a + 0.237 X$$

The value of b is found to be 0.237 which means that on average 1 unit change in total investment (Total Assets) would result in 0.237 unit change in the net profit of NTC. Given the capital budget plan of the NTC for coming years, we can use the above equation to estimate what the profit of the NTC would likely to be in the coming years.

4.4.1.3 Correlation & Regression Analysis of Total Sales Revenue and Total Cost

The relationship between Sales Revenue and Cost is measured and tested by Karl Pearson's Co-efficient of Correlation. A positive correlation here would imply that most of the costs of NTC are of variable nature. A low positive correlation would imply that the average cost would go down as the volume expands. A negative correlation, which is highly unlikely, would point out that cost of NTC decreases with the increase in sales volume and vice versa. The Regression Equation would develop a function, with the help of which, we can predict what the amount of cost would be in the coming years with various predicted sales levels. The calculation of this correlation and regression equation is shown as follows:

Table 4.25

Calculation of Correlation & Regression Coefficient of Total Sales & Total Cost

(Rs. in ten million)

Year	Total Sales (X)	Total Cost (Y)	X ²	Y ²	XY
2059/060	76.6928	45.81502	5881.79	2099.016	3513.68
2060/061	88.55035	55.64917	7841.164	3096.83	4927.75
2061/062	91.9429	56.51836	8453.50	3169.325	5196.462
2062/063	110.5892	61.22268	12229.97	3748.22	6770.57
2063/064	147.5162	90.98936	21761.03	8279.063	13422.40
2064/065	178.8931	99.46408	32002.74	9893.103	17793.44
2065/066	222.5771	108.66402	49540.56	11807.869	24186.30
2066/067	272.2106	112.56438	74098.61	12670.73	30641.21
	X = 1188.97225	Y = 630.88707	X ² = 211809.364	Y ² = 54764.156	XY = 106451.812

Source: Audited Annual Financial Reports of NTC

We know that,

The Correlation Coefficient between two variables is given by

$$r_{xy} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{8 | 106451.812 - \frac{1188.97225 | 630.88707}{8}}{\sqrt{8 | 211809.364 - \frac{1413655.606}{8}} \sqrt{8 | 54764.156 - \frac{398009.575}{8}}}$$

$$= \frac{101506.779}{529.93 \times 200.74}$$

$$= 0.954$$

For Test of significant

We know that,

$$\text{Probable Error (P.E.)} = 0.6745 \times \frac{1 Z r^2}{\sqrt{n}} = 0.6745 \times \frac{1 Z (0.954)^2}{\sqrt{8}} = 0.02143$$

$$\text{Now } 6 \text{ P.E.} = 6 \times 0.02143 = 0.12858$$

Which is less than r_{xy} , hence r is significant.

The value of r is found to be 0.954 which implies that there exists a high degree of positive correlation between sales revenue and cost. This means the two variables move in the same direction; i.e. if sales revenue increases then cost also increases, and vice-versa. The value of r is greater than 6 times the probable error and higher than +0.5; means that there is significant degree of positive correlation between the variables i.e. the value of r is significant. Hence, the relationship between total costs and total sales revenue is that of a cause and affect one.

Also Regression coefficient of y on x is

$$b_{yx} = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2} = \frac{101506.779}{288825.8049} = 0.36$$

& Regression coefficient of x on y is

$$b_{xy} = \frac{n \sum XY - \sum X \sum Y}{n \sum Y^2 - (\sum Y)^2} = \frac{101506.779}{40292.5329} = 2.52$$

Hence the regression equation of Costs (Y) on Sales (X) is given by

$$= a + 0.36 X$$

The value of b is found to be 0.36 which means that on average 1 unit change in sales revenue would result in 0.36 unit change in the total cost of NTC. Given the capital budget plan of the NTC for coming years, we can use the above equation to estimate what the profit of the NTC would likely to be in the coming years.

4.4.1.4 Correlation & Regression Analysis of Sales Revenue and Profit

The relationship between Sales Revenue and Profit is measured and tested by Karl Pearson's Co-efficient of Correlation. A positive correlation here would imply that the profit of NTC is of variable nature and the sales and profit go in the same direction but disproportionately. A low positive correlation would imply that the average profit would go down as proportion to the volume expands. A negative correlation which is highly unlikely, would point out that net profit of NTC decreases with the increase in sales volume and vice versa. The Regression equation would develop a function, with the help of which, we can predict what the amount of profit would be in the coming years with various predicted sales levels. The calculation of this correlation and regression equation is shown as follows:

Table 4.26

Calculation of Correlation Coefficient & Regression Coefficient of Sales Revenue and Profit (Rs. in ten million)

Year	Sales Revenue (X)	u = (X-10.58915)	u ²	Net Profit (Y)	v = (Y-49.36647)	v ²	uv
2059/060	76.69289	-33.896	1148.96	30.87782	-18.49	341.83	626.74
2060/061	88.55035	-22.04	485.71	32.90117	-16.465	271.106	362.558
2061/062	91.94247	-18.65	347.7	35.42462	-13.942	194.375	260.018
2062/063	110.58915	0	0	49.36647	0	0	0
2063/064	147.51624	36.93	1363.61	56.52688	7.16	51.27	264.42
2064/065	178.89310	68.304	4665.43	79.42902	30.063	903.76	2053.42
2065/066	222.57712	111.987	12541.08	101.78024	52.413	2747.12	5869.57
2066/067	272.21060	161.621	26121.34	107.75154	58.385	3408.81	9436.24
		u = 304.256	u ² =46673.83		v = 99.124	v ² =7918.271	uv=18872.966

We know that,

The Correlation Coefficient between two variables is given by

$$\begin{aligned}
 r_{xy} = r_{uv} &= \frac{n \sum uv}{\sqrt{\sum u^2} \sqrt{\sum v^2}} \\
 &= \frac{8 \mid 18872.966 \mid 304.256 \mid 99.151}{\sqrt{8 \mid 46673.83} \sqrt{8 \mid 7918.271}} \\
 &= \frac{120816.4573}{529.923 \times 231.333} \\
 &= 0.985
 \end{aligned}$$

For Test of significant

We know that,

$$\text{Probable Error (P.E.) } 0.6745 \times \frac{1Zr^2}{\sqrt{n}} = 0.6745 \times \frac{1Z(0.985)^2}{\sqrt{8}} = 0.0071$$

$$\text{Now } 6 \text{ P.E.} = 6 \times 0.0071 = 0.0426$$

Which is less than r_{xy} , hence r is significant

The value of r is found to be 0.985 which implies that there exists a high degree of positive correlation between sales revenue and profit. This means these two variables move in the same direction; i.e. if sales revenue increases then profit also increases, and vice-versa. The value of r is greater than 6 times the probable error and higher than +0.5; means that there is significant degree of positive correlation between the variables i.e. the value of r is significant. Hence, the relationship between total costs and total sales revenue is that of a cause and affect one. Also Regression coefficient of y on x is

$$b_{yx} = \frac{n \sum uv - \sum u \sum v}{n \sum u^2 - (\sum u)^2} = \frac{120816.4573}{280818.3859} = 0.43$$

& Regression coefficient of x on y is

$$b_{xy} = \frac{n \sum uv - \sum u \sum v}{n \sum v^2 - (\sum v)^2} = \frac{120816.4573}{53514.957} = 2.258$$

Hence the regression equation of Profit (Y) on Sales (X) is given by
 $= a + 0.43 X$

The value of b is found to be 0.43 which means that on average 1 unit change in sales revenue would result in 0.43 unit change in the net profit of NTC. Given the sales budget plan of the NTC for coming years we can use the above equation to estimate what the profit of the NTC would likely to be in the coming years.

4.5 Major findings of the Study

The major findings drawn after the analysis of the available data are:

) The study showed that the actual sales achievement of NTC is highly consistent with

budgeted sales in the FY 2059/060 to FY 2061/062. The actual sales achievement in FY 2062/063 & 2066/067 are highly recommendable. The actual sales achievements are on average 109.22 percentages of budgeted sales. It can be said that the targets were sets on a realistic basis.

- J The analysis of above table also shows that there is no systematic sales plan except in FY 2066/067. But it is clear that the performance of planning section of NTC is satisfactory. Budgets are set only on the assumption of management. Budgets are prepared on the basis of historical data. It shows that the efficiency of management for prepared the planning. Mobile telephones are disturbed due to the political situation of the country & loading shedding.
- J The average current ratio is 1.61 times during the study period. The ratio 1.61 on an average indicates that the organization has current assets of Rs 1.61 for each rupee of current liabilities. It ranged between a highest of 1.84 times in the FY 2066/067 and a lowest of 1.40 times in the FY 2061/062.
- J The average quick ratio is 1.54 times during the study period. The quick ratio shows a slow increasing trend in the latter period of the study period. The overall liquidity position of Nepal Telecom is not good in comparison to the general standard to be of 2:1.
- J Average inventory turnover ratio of NTC for the past eight years is 56.49 times. It ranged between a highest of 145.46 times in the FY 2066/067 and a lowest of 17.98 times in the FY 2059/060. The overall ratio trend shows an upward direction particularly in the most recent years.
- J Average age of inventory of NTC for the study period is 9.94 days. The average age ranged between a highest 20.30 days in the FY 2059/060 and a lowest 2.50 days in the FY 2066/067. It shows a downward movement in the recent years that is good indication for the company.
- J The average debtor turnover ratio of NTC for the past eight years is 4.04 times. It ranged between a highest of 5.83 times in the FY 2066/067 and a lowest of 2.379 times in the FY 2059/060. It shows an upward movement over the study period.
- J Average collection period of NTC over the study period is 98.96 days. It is in decreasing trend over the study period that is good indication for the company as to convert receivables into cash.
- J The average of the total assets turnover ratio of NTC for past eight years is 0.319 times.
- J The ratio seems to be a little volatile as it ranged from 0.2580 in the FY 2059/060 to

0.4114 times in the FY 2066/067. It shows an increasing trend that means the increase ratio in the investment of assets increases the sales in the greater detail.

- J The fixed assets turnover of NTC is in increasing trend. It ranges from a minimum of 0.9475 times in the FY 2059/060 to a maximum of 1.7716 times in the FY 2066/067. It gives same result as the total assets turnover ratio.
- J The average working capital turnover ratio of NTC for past eight years is 1.4828 times.
- J The ratio seems to be increasing as it ranged from 0.8698 in the FY 2059/060 to 1.8315 in the FY 2064/065.
- J Average capital employed turnover ratio of NTC for the study period is 0.4716 times which is lower than the general standard average of at least 1.00 times for this type of business. The ratio ranged from the lowest of 0.3915 in the FY 2059/060 to the highest of 0.5296 in the FY 2063/064.
- J The average interest coverage ratio is 132.198 times which implies that NTC has been able to cover the interest expenses by a good margin of safety.
- J Average of the net profit margin ratio of NTC for past eight years is 41.07% which is higher than the general standard average of at least 25% for this line of business. The ratio seems to be stable over the study period. The overall ratio trend shows a small swing in either direction of the ratio within the range of 37.15% to 44.64% over the study period.
- J Average operating expenses ratio of NTC for past eight years is 40.95% which is lower than the general standard average of around 50% for this line of business. The ratio seems to be stable but slightly in increasing trend as it ranges from a lower of 33.97% in the FY 2064/065 and 46.95% in the FY 2066/067.
- J The average return on assets of NTC for the study period is 13.34%. The ratio seems to be almost stable as it ranges from 10.7% in the FY 2059/060 to 17.42% in the FY 2065/066.
- J The average return on equity of NTC for past eight years is 20.19%. The ratio seems to be an increasing trend that means the return for equity holder increase over the study period. The average ratio for the period is 20.19% which indicates that the equity holders of NTC earned 20.19 paisa of return on their investment of Re. 1.00 over the last 8 years.
- J The correlation between GDP and sales volume of r is found to be 0.980. The value of

r is far greater than 8 times the probable error which means that there is clear evidence of significant association between these two variables.

-) The correlation between total investments and total profit value r is found to be 0.9897 which implies that there exists a high degree of positive correlation. The value of r is greater than 8 times the probable error and higher than +0.5 means that there is significant degree of positive correlation between the variables i.e. the value of r is significant.
-) The correlation between sales revenue and cost value r is found to be 0.954 which implies that there exists a high degree of positive correlation. This means the two variables move in the same direction; i.e. if sales revenue increases then cost also increases and vice-versa. The value of r is greater than 8 times the probable error and higher than +0.5, means that there is significant degree of positive correlation between the variables i.e. the value of r is significant.
-) The correlation between sales revenue and profit value r is found to be 0.985 which implies that there exists a high degree of positive correlation. This means the two variables move in the same direction; i.e. if sales revenue increases then profit also increases and vice-versa. The value of r is greater than 8 times the probable error and higher than +0.5, means that there is significant degree of positive correlation between the variables i.e. the value of r is significant.
-) No plan and programmed has been made about possible consumption of telephone industry.
-) NTC has not adopted of practice of preparing monthly revenue earning reports.
-) The revenue plan prepared by the branches and sub branches were not taken as reference for preparation of central revenue plan.
-) The Telecom maintains its periodic performance report systematically.
-) NTC has a practice a preparing both strategic long term and tactical short term revenue plan. But the study is mainly focused on tactical short term revenue plan of Telecom.
-) Nepal Telecom has practiced international accounting system.

CHAPTER –V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The main objective of planning in business is to increase the chances of making a profit. Business managers are continually involved in organizing, planning, and controlling the

operation of both large and small business organizations. Profit planning is one of the most important management tool used to plan and control business operations. The effective operation of a business concern resulting to the excess of income over expenditure fully depends upon as to what extent the management follows proper planning, effective coordination, and dynamic control.

Comprehensive profit planning and control or budgeting is to be of prime importance in virtually all organizations. Profit plans can be broadly divided into two groups as functional plan and financial plan. Functional plans include sales plan, production plan, raw materials plan, direct labour plan, and expenses plan. Financial plan includes cash flow plan, capital expenditure plan, projected income statement, and projected balance sheet. Time dimension is another important consideration in profit planning. Profit plans are prepared for two time dimensions, strategic long range plan for 5 or 7 or more years and tactical short range plan for a year detailed by interim periods. Profit planning is an artistic work. The formats of profit planning or budgeting are neither predetermined nor rigid. These vary with the nature of data, size of transactions, and the persons who develops the formats. Thus, it should be neat, clean, clear and comprehensive.

Having prepared a plan, it is equally important to implement effectively and to watch performance. Difference between actual results and the budgeted may rise to indicate the necessity for correction so as to assure the realization of the forward plan. Effective profit planning requires support of top management, accurate accounting, continuous budget education, degree of flexibility, full communication, realistic exceptions, etc. Nepal is predominantly an agricultural country. Industrialization is still in its infancy with many major areas under public sector management. Industrialization sector have contributed 10%, and more than 80% of the people still depend on agriculture for their livelihood. It is sure that most developing countries need to make fairly extensive use of public enterprises as a catalytic agent in the process of moving certain stage in the development process. Public enterprises in Nepal constitute a vital instrument for the socio-economic development of our country. Nepal Bank limited, a commercial bank was the first public enterprise to have separate public entity in Nepal. Since then, a number of PEs has been established. Performance of PEs in Nepal has remained poor. The perception of the government and its role in public welfare has helped to establish public enterprises engaged in public utilities. Role of the government owned enterprises is supposed to be undermined in the present context of worldwide privatization, liberalization and globalization.

But in developing country like Nepal where private sector is not strong and in sound position to provide public utilities to the people, public utility concern's role cannot be undermined. Most of the Nepalese public enterprises are facing the ambiguity upon their goals and

objectives. However lower level management's perception and participation both are ignored by most of the PEs in developing plans, goals, objectives and strategies. There is the lack of proper coordination and communication has no commitment on the goals and objectives of the organization. Likewise planners are having no proper skill and technique to develop various functional budgets. The present study has examined the application of profit planning in Nepalese public utility sectors.

Located in South Asia with the area of 1, 47,181 Sq Km, Nepal is a landlocked country where 77% of total land is covered by rocks, snow, barren mountains and sloppy hill. Rest of the land is of plain type. Nepal is a mountainous country where highest peak of the world is located. Hence it is popularly known as third pole. With its varying topography and climate, Nepal is rich in biodiversity. It is also the birth place of Lord Buddha. The country has the agriculture oriented economy with around US\$ 320 per capita income.

As a developing country it is on the path of economic growth. In Nepal, a state owned and privately owned business enterprises are actively contributing for the economic growth. The two types of business enterprises are namely public enterprises and private enterprises. Public enterprises are government owned business organizations established with the objectives of providing public service and setting up infrastructure of development. On the other hand private enterprises are established with the primary motive of profit generation at the same time contributing of the national economic development. Hence both enterprises play the vital role for the overall development of the nation by mutual effort.

Telecommunication is an inevitable infrastructure of development to all countries. It is considered as prerequisite for the other dimension of development. In Nepal, the need of telecommunication services is primarily fulfilled by Nepal Telecom. History of telecommunication service in Nepal is not so long. First telecommunication service in the country had been introduced in 1972 BS. Since then and up to the launching of first five year plan of 2013 BS, the development of telecommunication was in slow pace. After Nepal started systematic economic development by launching its first five year plan in 2013BS, various national and international trunk lines were added and cross bar telephone lines to people and public offices were distributed. Introduction of liberalized economic policy in Nepal gradually facilitated the private sector investment as a result multinational companies also showed their presence.

Further more public enterprises started to be privatized. Such trend couldn't also remain intact without influencing Nepal Telecommunications Corporation. Hence Nepal Telecommunications Corporation has been changed to Nepal Doorsanchar Company limited in 2061 BS under the Company Act. It's popularly known commercial name is "Nepal Telecom" with "Nation Building is Our Goal". Nepal Telecom has been recently established

under the Company Act. Its 91.52689% ownership has been held by Nepal Government by receiving the entire investment from government.

As financial health is the key indicator of the success and failure of the organization, different financial indicator show to what extent would the organization is capable to meet the expectations of various stakeholders of the company. In the light of this main issue the study is to evaluate the profit planning of Nepal Telecom on the basis of latest available information. It will light upon the past financial strength and weaknesses faced by the organization and provide the guidelines to improve the financial health. Financial Analysis and planning function is not a decision- making in itself rather it is an ancillary service which helps in planning for those two decisions and evaluating the outcome of those two decisions and recommending necessary rectifying measures. The study has been concentrated into the profit planning mechanism practice and its chronological development over the study period.

5.2 Conclusions

Analyzing in details the present practice of profit planning process in NTC, this study concludes the following:

-) NTC has not adequately considered controllable and non controllable variables affecting the company. Furthermore, it has no in depth analysis of the company's strengths and weakness.
-) Objectives of Nepalese public enterprises are not clear. Conflict between social objectives and profit objectives are hindering to profit planning program of PEs.
-) NTC has not any effective program to increase profitability but these enterprises have a number of social objectives to create and maintain an optimum enterprises environment that maximizes the interest and motivation of all employees.
-) There is no well developed system of performance evaluation for employees. No fair system of reward and punishment to employees on the basis of their work performance. No programs have been assigned to create fair working environment.
-) This company has no any broad objectives to operate with a positive and dynamic philosophy of management, which is vital to a competitive and growing company.
-) Furthermore this company has no any major programs to accomplish formulated objectives and implement continuously and it consistently so as to increase the expertise of management at all levels and to take full advantage of the latest technique and innovations as they are developed.
-) Planning department of NTC does not have any authority to decide and create new ideas while formulating various plans. Basically few higher level officials formulate plans, participatory decision making is not considered necessary in the corporation.

-) Redtops are another main obstacle in decision making and implementation of plans and programs. Every function requires unnecessary formalities, which creates delay in decision making and functioning.
-) Nepalese public enterprises lack budgeting experts and skilled planners. Plans are formulated on traditional adhoc basis.
-) To some extent NTC are not efficiently able to adopt new technological advancement.
-) That's why the cost of production are too high than they should be.
-) Sales plan achievement is satisfactory in NTC. NTC has not practiced to prepare long term sales plan.
-) Pricing system of public utility sector is not scientific. PEs adopts traditional pricing methods. Usually, cost plus pricing method is applied to determine price.
-) NTC has not a practice of systematic forecasting. Sales forecasts are made with previous sales figures and production capacity. This shortcoming is due to lack of skilled experts.
-) Cost volume profit relationship has not been considered while developing the sales plans; fixed assets purchase plan and pricing strategy.
-) Theoretically, production plan should be based on sales plan. But due to the production oriented economy, Nepalese public enterprises do not consider sales plan to develop the production plan. There is no proper coordination between sales, and production.
-) Rules and regulations should be strictly implemented to control leakage. There are a few gaps between actual production and actual sales because of high demand of telephone lines regarding NTC.
-) All the expenses such as manufacturing, administrative, selling and distribution are not kept separately and systematically. All these expenses are combined together as well as various costs are not diagnosed as controllable expenses non controllable expenses.
-) So neither effort is made to reduce neither controllable expenses nor expense control programs being effective.
-) NTC uses traditional techniques and discounted technique both to evaluate capital expenditure proposals. So NTC has effective process for capital expenditures decision.
-) Another main problem in Nepalese public enterprises is relating to manpower planning. All the employees are paid on time basis, which gives them a fixed salary.
-) Due to the fixed payment on time basis, qualified and creative personnel are frustrated.
-) NTC has formulated the policy about financing the cash deficit that may arise in course of operation. Likewise, this company has advance program of utilizing the excess funds that is likely to generate in course of operation.
-) It has yet not adopted the cost control measures.

- J The study showed that the actual sales achievement of NTC is highly consistent with budgeted sales in the FY 2059/060 to FY 2061/062. The actual sales achievement is above the targets sales in FY 2062/063 and 2063/064. The actual sales achievements are on average 109.22 percentages of budgeted sales. It can be said that the targets were sets on a realistic basis. It shows that the efficiency of management for prepared the planning.
- J Average current ratio is 1.61 times during the study period. The ratio 1.61 on an average indicates that the organization has current assets of Rs 1.61 for each rupee of current liabilities. It ranged between a highest of 1.84 times in the FY 2066/067 and a lowest of 1.40 times in the FY 2061/062.
- J The average quick ratio during the study period is 1.59 times. It indicates that the organization has quick assets of Rs 1.59 against one rupee of current liabilities. The overall liquidity position of the company is not a so good.
- J Average inventory turnover ratio of NTC for the past eight years is 56.49 times. It ranged between a highest of 145.41 times in the FY 2066/067 and a lowest of 17.98 times in the FY 2059/060. It has showed an increasing trend over the study period.
- J Average debtor turnover ratio of NTC for the study period is 4.04 times. It ranged between a highest of 5.83 times in the FY 2066/067 and a lowest of 2.38 times in the FY 2059/060. It has also showed an increasing trend over the study period.
- J Average collection period of NTC over the eight years of study period is 98.96 days. It
- J has been found that it has been decreasing in the latest years.
- J The average total assets turnover ratio is 0.319 times which is ranged from 0.2580 times in 2059/060 to 0.4114 times in 2066/067. It shows an increasing trend during the study period.
- J Average working capital turnover ratio of NTC for past eight years is 1.4828 times. The ratio seems to be increasing as it ranged from 1.83 in the FY 2064/065 to 0.8698 in the FY 2059/060.
- J The average capital employed turnover ratio is 0.4716 times during the study period resulting from the range between 0.3915 in the FY 2059/060 and 0.5296 in the FY 2063/064 which has showed an increasing trend. It indicates a rupee long term capital investment can generate 0.4716 paisa sales.
- J The average interest coverage ratio is 132.198 times which implies that NTC has been able to cover the interest expenses by a good margin of safety.
- J The average debt ratio is 0.3513 times during the study period. It implies the proportion of debt is 35.13% out of total investment (Total Assets).

-)] Average debt to equity ratio over the study period is 0.56 times. It implies that a good of debt bearing capacity.
-)] Average net profit margin ratio of NTC for past eight years is 41.07% which is higher than the general standard average of at least 25% for this line of business.
-)] Average operating expenses ratio of NTC for past eight years is 40.95% which is lower than the general standard average of around 50% for this line of business.
-)] The average return on equity of NTC during the study period is 20.19% which implies that the company can provide 0.2019 paisa for the equity shareholders.
-)] The correlation between GDP and sales volume of r is found to be 0.980. The value of r is far greater than 8 times the probable error which means that there is clear evidence of significant association between these two variables. The value of r is greater than 8 times the probable error and higher than +0.5 means that there is significant degree of positive correlation between the variables i.e. the value of r is significant.
-)] The correlation between sales revenue and cost value r is found to be 0.954 which implies that there exists a high degree of positive correlation. This means the two variables move in the same direction i.e. if sales revenue increases then cost also increases and vice-versa.
-)] The correlation between profit and investment (Total Assets) of r is found to be 0.9897.
-)] The value of r is far greater than 8 times the probable error which means that there is clear evidence of significant association between these two variables. The value of r is greater than 8 times the probable error and higher than +0.5 means that there is significant degree of positive correlation between the variables i.e. the value of r is significant.
-)] The correlation between profit and sales volume of r is found to be 0.985. The value of r is far greater than 8 times the probable error which means that there is clear evidence of significant association between these two variables. The value of r is greater than 8 times the probable error and higher than +0.5 means that there is significant degree of positive correlation between the variables i.e. the value of r is significant.

All studies have their own objectives. Objectives make the study relevant and meaningful. To make the study significant, ratio analysis and regression analysis, income and expense analysis, correlation analysis and regression analysis have been used taking the major variables of NTC. Before the analysis of such financial and statistical tools the details of the same has been explained in the literature review chapter and for the mathematical calculations research methodology has been carried out. On basis of the analysis findings were drawn and traced to provide some relevant recommendations to the management of NTC so that could be applied those recommendations if they deemed it appropriate.

5.3 Recommendations

The following recommendations are made after the study that will help NTC's management to improve the profitability and other shortcoming where it requires.

-) NTC planners should be properly trained about budgeting of revenue planning.
-) NTC should considered 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 , massage cost, and reliability of NTC service while forecasting demand.
-) NTC should prepare plans and program for consumer and solve network problems to achieve target growth rate in sales revenue. NTC should make realistic forecast.
-) While preparing central budget of NTC, it should take suggestions made by branches and sub-branches.
-) NTC should avoid the practice of using 10% increment as benchmark figure in the preparation of budget.
-) NTC should introduce program and action plans for the solve network problem and stolen telephone lines and misused of telephone call reduction the loss of technical and non-technical.
-) NTC should put more effort to manage the supply to the profitable sectors such as domestic, national and international wise.
-) There should be provided more facility to their customer than other telecommunications such as Mero Mobile and United Telecom.
-) NTC should set clear boundaries about fixed and variable cost.
-) Cost volume profit relationship should be considered while formulating the revenue plan.
-) The actual sales revenues are to make consistent over the years.
-) The liquidity position should be improved as to equal the general standard of 2:1 of current ratio.
-) The efficient inventory management system should be applied.
-) The collection effort needed to be intensified so that ACP can be put to reasonable level. Given the credit term of more than 3 months by NTC to its suppliers, it can convert 2/5 of its investments tied up in receivable into cash.
-) The Organization was losing the benefit of the leverage over time particularly in the most recent years. A profitable company like NTC should not hesitate to use the cheaper debt source to magnify the return of equity. So, the management should consider using long-term debt in financing new expansion projects in the future.

-) The investment in working capital was not reasonable. So NTC should rearrange its current assets components. The working capital should be made on the basis of service delivered.
-) Fixed assets turnover increased over time, it was still far below 1.00 times barrier. So, NTC management should be careful in future not to undertake capital intensive investment projects if they fail to generate sufficient volume. The management can even think of proper use of its fixed assets.
-) The investment appraisal criteria should be modified to make it more scientific so that it weighs all relevant factors before making further investment decision so that the project does not provided lesser return than cost of loan.
-) Periodic financing requirement should be forecasted and planned in advance so that uniformity in financing can be insured.
-) Set up pro-forma balance sheet and income statements to use as a guideline to determine the size/proportion of investment and financing items of balance sheet and operational items of the income statement, so that a standardization and rationalization in operation, financing and investment can be made.
-) The organization should impart professional management at its top hierarchy. Given the tough competition emanating from the private sector, the organization should resist unnecessary political interferences in managing its day to day operations. It should seek freedom to decide on its own under the broad guidelines given by the government.
-) The company should have in depth analysis of company's strength and weakness.
-) There should be continuous flow of information among various level of management and various group of employees. The goal, objectives, strategies should be carefully communicated to lower level management. The company should maintain proper coordination within the organization. Line and staff authorities and responsibilities should be clearly defined.
-) To eliminate red tapism, unnecessary formalities should be corrected and avoided which create delays in decision making and functioning.
-) They should develop their overhead budget in a well classified and scientific way.
-) When developing the tactical profit plan the expenses for each responsibility center should be carefully assessed. After the production plan has been completed expense budgets should be developed for each responsibility centre in the organization.
-) Capital expenditures should be planned in advance and discounted cash flow techniques should be applied to evaluate the proposals.
-) Policy to finance the cash deficit and to utilize excess funds should be formulated.

-) The financial position should be timely evaluated through ratio analysis and other relevant tools.
-) There should be timely evaluation of strengths and weaknesses. Different aspects such as managerial involvement organizational adoption, responsibility accounting, full communication, realistic expectations, time dimensions, flexible application, behavioral point of view and follow up programs should be made effective, productive and result oriented for the successful operation of the organization.

Finally a systematic approach to comprehensive profit planning is essential to be adopted in Nepal Telecom. To adopt this approach, planning experts should be hired or existing planners should be trained. Implementation of profit planning program can considerably contribute to increase profit or to eliminate loss of the organization. Although profit needs to be earned for survival and growth of any institution, it should not be the one and the only one goal.

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ANNEX

1. Calculation of Mean, SD & CV of actual & Budgeted Sales Revenue

Year	Budgeted Sales	Actual Sales
2059/060	7,316.55	7,669.28
2060/061	8,819.059	8,855.04
2061/062	9,254.58	9,194.29
2062/063	9,146.68	11,058.92
2063/064	11,323.14	14,751.62
2064/065	17,972.99	17,889.31
2065/066	22,736.04	22,257.71
2066/067	28,858.17	27,221.06

Budgeted Sales			Actual Sales		
X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
7,316.55	-7,111.85	50,578,410.42	7,669.28	-7,192.87	51,737,378.84
8,819.06	-5,609.34	31,464,706.45	8,855.04	-6,007.11	36,085,370.55
9,254.58	-5,173.82	26,768,413.39	9,194.29	-5,667.86	32,124,636.98
9,146.68	-5,281.72	27,896,566.16	11,058.92	-3,803.23	14,464,558.43
11,323.14	-3,105.26	9,642,639.67	14,751.62	-110.53	12,216.88
17,972.99	3,544.59	12,564,118.27	17,889.31	3,027.16	9,163,697.67
22,736.04	8,307.64	69,016,882.37	22,257.71	7,395.56	54,694,307.71
28,858.17	14,429.77	208,218,262.25	27,221.06	12,358.91	152,742,656.39
$\phi x = 115,427.21$		$(\sum (X - \bar{X})^2) = 436,149,998.99$	$Y = 118,897.23$		$(\sum (Y - \bar{Y})^2) = 351,024,823.45$

We have:

$$\bar{X} = \frac{\sum X}{n} = \frac{115427.21}{8}$$

$$= 14428.40$$

$$\bar{Y} = \frac{\sum Y}{n} = \frac{118897.225}{8}$$

$$= 14862.15$$

Again,

Standard Deviation of Budgeted Sales

$$s_x = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = \sqrt{\frac{436149999}{8}} = 7383.68$$

$$s_y = \sqrt{\frac{\sum (Y - \bar{Y})^2}{n}} = \sqrt{\frac{351024883.5}{8}} = 6624.05$$

Hence,

$$x = 7383.68$$

$$y = 6624.05$$

Again, we have :

Coefficient of variance of budgeted sales is given by

$$CV (X) = \frac{\dagger_x}{X} \times 100 = \frac{7383.68}{14428.40} \times 100 = 51.17\%$$

Similarly coefficient of variance of actual sales is given by

$$CV (Y) = \frac{\dagger_y}{Y} \times 100 = \frac{6624.05}{14862.15} \times 100 = 44.57\%$$

CV of budgeted sales is greater than CV of actual sales, therefore the actual sales is more consistent.

2. Calculation of Trend Line Equation of actual sales

Let the straight line trend be,

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

X	X = 2(x - 4.5)	Y (sales in million)	X ²	XY	Trend Value \hat{Y}
1	-7	7,669.28	49	-53,684.96	6,522.95
2	-5	8,855.04	25	-44,275.20	8,541.65
3	-3	9,194.29	9	-27,582.87	10,560.35
4	-1	11,058.92	1	-11,058.92	12,579.05
5	1	14,751.62	1	14,751.62	14,597.75
6	3	17,889.31	9	53,667.93	16,616.45
7	5	22,257.71	25	111,288.55	18,635.19
8	7	27,221.06	49	190,547.42	20,653.89
	x = 0	Y = 118,897.23	X ² = 168	XY = 233,653.57	

Since X = 0

So,

$$a = \frac{Y}{n} = \frac{118897.225}{8} = 14862.15$$

$$b = \frac{XY}{X^2} = \frac{233653.595}{168} = 1390.78$$

Substituting the value of a & b in equation (i) the required trend be:

$$Y = 14862.15 + 1390.78 X \dots\dots\dots(ii)$$

Which is required trend line equation

for the estimation in 2067/068 i.e. X = 9

$$\text{for } X = 9, X = 2(9 - 4.5) = 9$$

Now, the equation (ii) becomes

$$Y_9 = 14862.15 + 1390.78 \times 9 = 27379.17$$

$$\dots Y_9 = 27379.17$$

3. Calculation of trend line equation of current ratio and its trend values.

Let the straight trend be

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

Where, a and b are constant to be determined fitting of trend line.

X	X = 2(x - 4.5)	Current ratio (Y)	X ²	XY	Trend Value
1	-7	1.81	49	-12.67	1.65
2	-5	1.60	25	-8.00	1.61
3	-3	1.40	9	-4.20	1.58
4	-1	1.44	1	-1.44	1.54
5	1	1.50	1	1.50	1.51
6	3	1.61	9	4.83	1.47
7	5	1.69	25	8.45	1.43
8	7	1.84	49	12.88	1.40
		Y = 12.89	168	XY = 1.35	

$$a = \frac{\sum Y}{n} = \frac{12.89}{8} = 1.61$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{1.35}{168} = 0.008$$

Substituting the value of a & b in equation (i) the required trend be:

$$Y = 1.61 + 0.008 X \dots\dots\dots(ii)$$

for the estimation in 2067/068 i.e. X = 9

$$\text{for } X = 9, X = 2(9 - 4.5) = 9$$

which is required line equation

Trend from equation (ii)

$$Y_9 = 1.61 + 0.008 \times 9 = 1.68$$

$$\dots Y_9 = 1.68$$

4. Calculation of trend line equation of quick ratio and its trend values.

Solution : Let the straight trend be

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

fitting of trend line.

x	$X = 2(x - 4.5)$	Quick ratio (Y)	X^2	XY	Trend Value
1	-7	1.78	49	- 12.46	1.630
2	-5	1.58	25	-7.90	1.590
3	-3	1.38	9	- 4.14	1.558
4	-1	1.42	1	-1.42	1.522
5	1	1.48	1	1.48	1.486
6	3	1.58	9	4.74	1.450
7	5	1.68	25	8.40	1.414
8	7	1.83	49	12.81	1.416
	$X = 0$	$Y = 12.72$	$X^2 = 168$	$XY = 1.51$	

Since, $X = 0$

$$a = \frac{Y}{n} = \frac{12.72}{8} = 1.59$$

$$b = \frac{XY}{X^2} = \frac{1.53}{168} = 0.009$$

Substituting the value of a & b in equation (i) the required trend be:

$$Y = 1.59 + 0.009 X \dots\dots\dots(ii)$$

for the estimation in 2067/068 i.e. $X = 9$

$$\text{for } X = 9, X = 2(9 - 4.5) = 9$$

which is required line equation

Trend from equation (ii)

$$Y_9 = 1.59 + 0.009 \times 9 = 1.67$$

$$\dots Y_9 = 1.67$$

5. Calculation of Inventory Turnover Trend Values and Straight Line Trend Equation

Solution : Let the straight trend be

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

fitting of trend line.

x	$X = 2(x - 4.5)$	Inventory turnover ratio (Y)	X^2	XY	Trend Value
1	-7	17.98	49	-125.86	21.74
2	-5	32.59	25	-162.95	25.90
3	-3	27.70	9	-83.1	30.06
4	-1	31.62	1	-31.62	34.22
5	1	42.62	1	42.62	38.38
6	3	40.32	9	120.96	42.54
7	5	113.70	25	568.5	46.7
8	7	145.46	49	1018.22	60.42
	$X = 0$	$Y = 451.99$	$X^2 = 168$	$XY = 1346.77$	

Since, $X = 0$

$$a = \frac{\sum Y}{n} = \frac{451.99}{8} = 56.50$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{1346.77}{168} = 8.016$$

Substituting the value of a & b in equation (i) the required trend be:

$$Y = 56.50 + 8.016 X \dots\dots\dots(ii)$$

for the estimation in 2067/068 i.e. $X = 9$

$$\text{for } X = 9, X = 2(9 - 4.5) = 9$$

which is required line equation

Trend from equation (ii)

$$Y_9 = 56.50 + 8.016 \times 9 = 128.65$$

$$\dots Y_9 = 128.65$$

Date:2068-05-02

To,
The Chairmen
Research Committee
R.R.M.Campus,Janakpur

Subject:**About The Topic Selection Of Thesis.**

Dear Sir,

I have passed MBS first year and have also taken the exam of second year. So now, I have to write a thesis on any one topic for the partial fulfillment of MBS degree. I have chosen the topic named "**PROFIT PLANNING STRUCTURE OF NEPAL TELECOM & ITS PROGRESSIVE STATUS**" of which five copies proposal has attached along with this application. I have the knowledge about this topic because I work in the same company. So, please, grant me chance to write on about above mentioned topic.

I hope I will be given this topic to write thesis on it. I look forward to hearing from you soon.

Yours obedient
Ramjee Sah
MBS 2nd Year
Roll No.:58/064
Regd.No.:7-2-14-113-2002
Exam Roll No.:140271