

PROFIT PLANNING AND CONTROL IN PUBLIC UTILITIES SECTOR

(A Comparative Study on Nepal Water Supply Corporation and Nepal Telecom)

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RECOMMENDATION

This is to certify that the thesis:

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(A Comparative Study on Nepal Water Supply Corporation and Nepal Telecom)

has been prepared as approved by this department in the prescribed format of the
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(A Comparative Study on Nepal Water Supply Corporation and Nepal Telecom)**

And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for Master's Degree in Business Studies (M.B.S.).

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DECLARATION

I hereby declare that the present study entitled **Profit Planning and Control in Public Utilities Sector: A Comparative Study on Nepal Water Supply Corporation and Nepal Telecom** submitted to Office of the Dean, Tribhuvan University, is based on my original research work. It has prepared in the form of Partial fulfillment of the requirements for the Master of Business Studies (MBS) under the supervision and guidance of **Mr. Nirajan Basnet, Lecturer**, Central Department of Management, Tribhuvan University, Kirtipur, Kathmandu.

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TABLE OF CONTENTS

	Page No.
Recommendation	i
Viva-Voce Sheet	iii
Declaration	iii
Acknowledgements	iv
Table of Contents	v
List of Tables	viii
Abbreviations	ix
CHAPTER I: INTRODUCTION	1
1.1 Background of the Study	11
1.2 Statement of the Problems	15
1.3 Objectives of the Study	15
1.4 Significance of the Study	16
1.5 Limitations of the Study	16
1.6 Organization of the Study	16
CHAPTER II: REVIEW OF LITERATURE	8
2.1 Conceptual Review of Profit Planning and Control	18
2.1.1 Profit Planning and Control	18
2.1.1.1 Budgeting as a Tool of Profit Planning	30
2.1.1.2 Budgeting and Forecasting	32
2.1.1.3 Modern Budgeting for Profit Planning & Control	33
2.1.1.4 Components of PPC	34
2.1.1.5 Principal and Purpose of Profit Planning	35
2.1.2 Important of Profit Planning	35
2.1.3 Problems and Limitations of PPC	36
2.1.4 Process of PPC	37
2.1.5 Development of Profit Plan	38
2.1.5.1 Sales Plans	38
2.1.5.2 Production Plan	40
2.1.5.3 Material Budget	41
2.1.5.4 Direct Labor Cost Budget/Plan	42

2.1.5.5 Overhead Expenses Budget	43
2.1.5.6 Capital Expenditure Budget	45
2.1.5.7 Cash Budget	47
2.1.6 Performance Report	48
2.2 Review of Related Studies	50
2.2.1 Review of Journals and Articles	50
2.2.2 Review of Theses	52
2.3 Research Gap	58
CHAPTER III: RESESARCH METHODOLOGY	49
3.1 Research Design	59
3.2 Population of Sample	59
3.3 Nature and Sources of Data	60
3.4 Data Collection Procedures	60
3.5 Data Processing	60
3.6 Analytical Tools	60
3.6.1 Financial Tools	61
3.6.2 Statistical Tools	61
CHAPTER IV: DATA PRESENTATION AND ANALYSIS	54
4.1 Profit Planning	64
4.1.1 Sales Budget	64
4.1.2 Fitting Straight Line Trend by Least Squire Method	67
4.1.3 Production Plan	68
4.1.4 Expenses Planning	70
4.1.5 Capital Expenditure Plan	74
4.1.6 Analysis of Profit and Loss	76
4.1.7 Future Net Profit Patterns	77
4.1.8 Analysis of Balance Sheet	78
4.1.9 Cash Plan and Cash Flow Statement	81
4.2 Controlling Part	85
4.2.1 Performance Evaluation	85
4.2.2 Cost Volume Profit Analysis	85
4.2.3 Flexible Budget	88
4.2.4 Financial Analysis	89

4.2.4.1 Current Ratio:	89
4.2.4.2 Total Debt Ratio	91
4.2.4.3 Working Capital Turnover Ratio	92
4.2.4.4 Total Fixed Assets	93
4.2.4.5 Total Asset Turnover Ratio	94
4.2.4.6 Capital Employed Turnover Ratio	95
4.2.4.7 Net Profit Ratio	96
4.2.4.8 Net profit To Total Fixed Asset Ratio	97
4.2.4.9 Return on Capital Employed Ratio	98
4.3 Major Findings of the Study	99
CHAPTER V: SUMMARY, CONCLUSION AND RECOMMENDATIONS	91
5.1 Summary	101
5.2 Conclusion	102
5.3 Recommendations	105
BIBLIOGRAPHY	108

LIST OF TABLES

	Page No.
Table No. 4.1: Budget and Actual Sales of NWSC and NTC	65
Table No. 4.2: Budgeted and Actual Production in Unit of NWSC and NTC	69
Table No. 4.3: Budgeted and Actual Expenses of NTC for F/Y 2068/69 to 2073/74	72
Table No. 4.4: Budgeted and Actual Expenses of NWSC for F/Y 2068/69 to 2073/74	73
Table No. 4.5: Budgeted and Actual Capital Expenditure of FY 2073/74	75
Table No. 4.6: Budgeted and Actual Profit and Loss of NTC for FY 2073/74	76
Table No. 4.7: Actual Profit and Loss of NWSC for FY 2073/74	77
Table No. 4.8: Net Profit Pattern of NWSC and NTC	78
Table No. 4.9: Actual Balance Sheet of NWSC and NTC	79
Table No. 4.10: Actual Summarized Balance Sheet of NWSC and NTC for 2068/69 to 2073/74	80
Table No. 4.11: Actual Cash Flow Statement of NTC for F/Y 2073/74	82
Table No. 4.12: Actual Cash Flow Statement of NWSC for F/Y 2073/74	84
Table No. 4.13: Cost Classification and Actual Sales and BEP Analysis of NTC	86
Table No. 4.14: Cost Classification and Actual Sales and BEP Analysis of NWSC	87
Table No. 4.15: Flexible Budget Of NTC for FY 2073/74	88
Table No. 4.16: Flexible Budget of NWSC for FY 2073/74	89
Table No. 4.17: Current Ratio of NWSC and NTC	90
Table No. 4.18: Total Debt Ratio of NWSC and NTC	91
Table No. 4.19: Working Capital Turnover of NWSC and NTC	92
Table No. 4.20: Total Fixed Asset Turnover of NWSC and NTC	93
Table No. 4.21: Total Asset Turnover of NWSC and NTC	94
Table No. 4.22: Capital Employed Turnover of NWSC and NTC	95
Table No. 4.23: Net Profit Ratio of NWSC and NTC	96
Table No. 4.24: Net Profit to Total Fixed Asset Ratio of NWSC and NTC	97
Table No. 4.25: Return on Capital Employed Ratio of NWSC and NTC	98

ABBREVIATIONS

AD	Anno Domini
ADB	Asian Development Bank
BEP	Break Even Point
CRS	Compulsory Retirement Scheme
CV	Co-efficient of Variation
DTO	District Technical Office
EOQ	Economic Order Quantity
F/Y	Fiscal Year
FIFO	First in First Out
IDA	International Development Association
IRR	Internal Rate of Return
KVO	Katmandu Valley Operations
LIFO	Last In First Out
MBO	Management by Objectives
MLD	Million Liters Daily
NG	Nepal Government
NPV	Net Present Value
NTC	Nepal Telecom
NWSC	Nepal Water Supply Corporation
O & M	Operation and Maintenance
PES	Public Enterprises
PEST	Political, Economical, Social and Technical
PPC	Profit Planning and Control
RDWS	Rural Drinking water and sanitation
SWOT	Strength, Weakness, Opportunity and Threats
VRS	Voluntary Retirement Scheme
WHO	World Health Organization

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Profit planning is a part of overall process of an organization. Therefore this concept has wide application of any kind of business concern for the best utilization of the scarce (limited) resources and effectively and efficiently achieving its goals. Profit is the lifeblood of business organizations, which not only keep it alive but also assures the future and market it sound. In other words, every such organization needs profit to survive and compete in the open market. The success and failure of firm depends upon the margin of profit because profit is the primary requirement for its success. Moreover the margin of profit is regarded as an indicator of economic situation of the business firm. Since profit earning plays a vital role for achieving the objective of an organization. It is necessary for all organization to earn reasonable profit (Garrison and Noreem, 2017: 15).

The main objectives of any organizations are to maximize its profit and at the same time render reliable service to its customer. Both of the objectives have a great significance for the proper the management of the organizations. Profit is a device with the help of which efficiency of enterprises can be measured. However profit cannot be achieved without good organizations management. Before we make an intelligent approach to managerial process of profit planning. It is important that we understand the management concept of planning and budget. Planning is the process of developing enterprises objectives and selecting future course of action to accomplish them. Planning means deciding in advance what is to be done in future. Planning starts from forecasting and predetermination of future events. The main objective of planning in business to increase the chance of making profit. The budget is the primary planning operating documents committed to perform. In this sense budget is also called a profit plan (Glenn, et al. 1992).

A budget is a numerical plan of actions, which generally covers the areas of revenues and expenditures. The main aim of budgeting is to present the future forecasting numerically expressed in appropriate format, so as to have proper control over profits and costs.

Profit planning is comprehensive plan expressed in financial terms by which operating programs can be made effective for a given period of time. It is a tool of direction coordination and control and as such it is the most important administrative device for this purpose. Profit planning and control (PPC) is the latest invention in the field of Modern management. "Comprehensive profit planning and control is viewed as a process designed to help management effectively perform significant phases of planning and controlling functions. Profit planning is now an important responsibility of financial manager, while activities of this sort require an accounting background. They also set heavily upon the knowledge of business, economics, statistics and mathematics." Hence, from organization's viewpoint, "Any efforts to continue profit planning activities within the framework of accounting procedure would be to determine the long range interest of the firm. Therefore in both of the definition, we could find a bit similar rigor that is it is the business decision making which is the mainly exercised by financial manager, in other to achieve good prospect in business in terms of returns to investment" (Hilton, 2015: 117).

In fact, profit does not acquire immediately. It is managed. The technique of managing profit is called profit planning. For the long run stability of a firm every task should be performed according to long-term vision. Profit planning directs organization towards achieving the targets on profit. Therefore, it is the part of overall planning process of an organization. Budget is the primary operating document in this regard. Profit planning requires commitment on the performance of budgeting. To be more specific various functional budget are the basic tools for proper profit planning. Therefore later is, in fact a management technique. It is a formal statement of policy plan, objectives and goals of the organization established by the top management. So commercial bank has to make reasonable profit for its survival. Most of the commercial banks are registered as a company with joint stock and the share being traded at stock actions. Therefore profit made by them has also remained as are of vital parameter for measurement of the efficiency of these banks.

1.1.1 A Brief Profile of Sampled Companies

a. Nepal Water Supply Corporation (NWSC)

While going back to history, the populations of Kathmandu Valley were not high, so, government was not too much concern about providing drinking water supply to the people in Kathmandu Valley. During that period, people used to take water from the

available natural sources near their homes. However, because of population growth due to both natural growth and in-migration from other districts, the existing available resources were not enough to feed the people and thus, government realized to provide drinking water for the people in the Kathmandu valley and thus established a systematic development of water supply system with the name PANI ADDA (PANI GOSWARA) unit in 2029 BS. The organization has been restructured from time to time in order to provide the better service delivery to the customer. Following were the statutory development records of this organization.

The Nepal water Supply Corporation is an eco-friendly environment institution. We have been optimizing nearby available surface water sources to minimize water gap of urban area. In near future, we are going to complete additional water production work from Mardi to Pokhara and Jhumsa to Butwal, The ground water table of our service area is not getting down like in Kathmandu Valley. The quality of abstracted ground water is also good. Due to these reasons our aim is to minimize water gap especially in plain area by optimizing ground water abstraction work. We are also planning to develop water treatment facilities in the rest of service area.

Our working style should be moderated with the latest technology and local political demand. These changes will be helpful to strengthen our organization in future. The changing political scenario have gained completely different movement than in the past. The existing infrastructures in different urban centers have compelled us to re-think for rehabilitation and proper extension of our services according to local government demand.

The construction of Mineral Water Plant at Panauti municipality has also been started with the new concept which will help to generate additional income. I believe, this work will be definitely helpful to strengthen organizational financial condition in the days to come. I'm committed to fulfill my promises which I have expressed during my speech in the first day while I joined this organization. I hope we will work together in the up coming days to strengthen our organization and work will lead in proper direction (Annual Report of NWSC, 2017).

b. Nepal Telecom

In Nepal, operating any form of telecommunication service dates back to B.S. 1973. But formally telecom service was provided mainly after the establishment of

MOHAN AKASHWANI in B.S. 2005. Later as per the plan formulated in First National Five year plan (2012-2017), Telecommunication Department was established in B.S.2016. To modernize the telecommunications services and to expand the services, during third five-year plan (2023-2028), Telecommunication Department was converted into Telecommunications Development Board in B.S.2026. After the enactment of Communications Corporation Act 2028, it was formally established as a fully owned Government Corporation called Nepal Telecommunications Corporation in B.S. 2032 for the purpose of providing telecommunications services. After serving the nation for 29 years with great pride and a sense of accomplishment, Nepal Telecommunication Corporation was transformed into Nepal Doorsanchar Company Limited (NDCL) from Baisakh 1, 2061. Nepal Doorsanchar company Limited is a company registered under the Company Act 2053. However, the company is known to the general public by the brand name "Nepal Telecom" as its registered trademark.

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

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

Converting Nepal Telecom from a government owned monopoly to a business oriented, customer focused company in the competitive environment, Nepal Telecom invites all the shareholders in the sacred work of nation building (Annual Report of NTC, 2017).

1.2 Statement of the Problems

In context of Nepal, Both NWSC and NTC are major leading public enterprises functioning in public utility sector. Both are most the basic infrastructures for the development of the nation. Without it no industrialization of the economy can be imagined. In this context, both organizations have a great role than other public enterprise as all manufacturing, non-manufacturing industries and government, depend upon information supplied by it. It is not facing marketing competition and is enjoying almost monopoly over the distribution of services. So Both Organization is large scale public enterprise of the country and country and an apex institution in the communication sector.

Most of the public enterprises of Nepal are in a big crisis. Some of them are liquidated. Some are privatized and some PEs is in the process of privatization. The first privatization policy was introduced in United Kingdom during 1980s and in Nepal it gained momentum after the restoration of multiparty democracy in 1990. At present among PEs of Nepal, NTC is regarded as one of the few successful corporations. But how long can this prosperity are continued? This question is haunting and daunting to each and every conscious person. The monopoly of NTC in telecom sector has ended. In this competitive and complex situation NTC and all its stables should focus more towards customer. NTC is Public Company and NWSC is fully government-owned controlled organization. Hence, the study will try to address the following research problems:

1. What is the process of budgeting practiced by both Organizations?
2. What is the position of financial performance?
3. What is the variance between budgeted and actual practices?

1.3 Objectives of the Study

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

1. To analyse the various budget activities adopted by both organization (NTC and WSC)
2. To assess the financial performance of both organization (NTC and WSC) by using BEP analysis and ratio analysis.

3. To examine the variances between budgeted and actual practices.

1.4 Significance of the Study

Budgeting is the key to the productive financial planning, so all organizations running under commercial principle have to give emphasis in regard to this most important single tool while managing their physical and financial targets. Various function budgets are the tools for proper profit planning and control. This study is intended to analyses and examines the budgetary practices used in NTC and NWSC. This study is concise, practical, usable and valuable to the major parties interested in the budgetary practice and profit planning and control. It will also be useful and beneficial to organizations, Nepal Government and other interested parties and stakeholders.

1.5 Limitations of the Study

A research is a full blaze and vast investigation study for the settlement of the problems. So it needs full time, finance and authentic information. The main focus of this study is on the budgeting and profit planning of both organizations. There are more than dozen services on communication sector provided by NTC and NWSC. Preparation of functional budget for each services requires large and many formats. It is difficult to cover all of them in individual's terms. Thus, in case of preparation of functional budget, the study is limited on overall base of organization. Following factors have further limited the scope of this study:

1. The study covers a period of 6 years from 2068/69 to 2073/74 on the basis of historical records as provided.
2. Since the study deals with both organizations (NTC and NWSC), the conclusion drawn from the study may or may not applicable to other public enterprises.
3. The comprehensive and accuracy of the study is based on the data available from the management of both organizations and other sources.
4. As the data used are mainly secondary in nature, there may be the chances of error in such data.
5. This study is concentrated in accounting and financial aspects only.

1.6 Organization of the Study

This whole research have been divided into five main chapters:

Chapter I:- Introduction:

This chapter contains the brief introduction of the subject matter i.e. background of the study, statement of the problem, need/scope of the study, focus, objective and limitation of the study.

Chapter II:- Conceptual Framework

This chapter includes meaning of profit planning, types of planning, forecasting vs planning, process limitation and component of profit planning, development of profit plan, various functional budget and analysis of variance.

Chapter III:- Review of Literature:

This chapter is an explanatory section of the thesis. It reviews the literature regarding the PPC, budgeting and brief sketch of previous research work.

Chapter IV:- Research Methodology:

This chapter acknowledge the research methodology used in this study. It consists of research design, sources of data, period covered, data processing procedure, tools and techniques of analysis used.

Chapter V:- Data presentation and analysis:

This chapter is truly an analytical section of the thesis. In this forth chapter, data presentation and analysis with the help of selected tools and techniques have been included.

Chapter VI:- Summary, Conclusions and recommendation:

This is the final part of the study. This part consists of summary of the overall study, conclusions from the analysis of data and put forward recommendation to improve the existing situation.

Bibliography and appendices are incorporated at the end of the study.

CHAPTER II

REVIEW OF LITERATURE

In this chapter the researcher has presented the conceptual framework of profit planning and its applicability in commercial banking activities has been incorporated. In this connection, the researcher has reviewed various literatures in the form of books written by various prominent authors, published newspapers, journals, browsing materials from the concerned websites and encyclopedia, previous dissemination in the relevant subject matters etc.

2.1 Conceptual Review of Profit Planning and Control

2.1.1 Profit Planning and Control

a. Profit

In business usage, the excess of total revenue over total cost during a specific period of time. In economics, profit is the excess over the returns to capital, land, and labour (interest, rent, and wages). To the economist, much of what is classified in business usage as profit consists of the implicit wages of manager-owners, the implicit rent on land owned by the firm, and the implicit interest on the capital invested by the firm's owners. In conditions of competitive equilibrium, "pure" profit would not exist, because the competitive market would cause the rates of return to capital, land, and labour to rise until they exhausted the total value of the product. Should profits emerge in any field of production, the resulting increase in output would cause price declines that would eventually squeeze out profits (Hilton, 2015: 118).

The real world is never one of complete competitive equilibrium, though, and the theory recognizes that profits arise for several reasons. First, the innovator who introduces a new technique can produce at a cost below the market price and thus earn entrepreneurial profits. Secondly, changes in consumer tastes may cause revenues of some firms to increase, giving rise to what are often called windfall profits. The third type of profit is monopoly profit, which occurs when a firm restricts output so as to prevent prices from falling to the level of costs. The first two types of profit result from relaxing the usual theoretical assumptions of unchanging consumer tastes and

states of technology. The third type accompanies the violation of perfect competition itself (*MLA and APA Style: Encyclopaedia Britannica, 2009*).

Generally, profit is the amount of money which is available after paying the costs of producing and selling the goods and services. but the different economists and scholars have the different opinion in term of profit usually profit does not happen itself, profit is managed when management makes plans is known as profit planning. Profit planning is the part of overall process of organizations. Usually, profit does not just happen, profit is managed when management makes plans, it is known as profit planning (Koirala, et al., 2017).

Some statement about profit by economists are chalk out as, Schumpeter opines that an enterprises earn profit as reward for introducing innovation. J. M. Keynes holds the view that profit results from the favorable movement of general prices levels. In the view of Mrs. Joan Robinson and chamberlain the greater the degree of monopoly power the greater will be the profit made by the entrepreneur. Similarly "profit is the reward for risk locking in business" (Joshi, 1993: 170).

The accounting concept of company profit is a concept of net business income. Profit is thus, the surplus income that remains after paying expenses and providing for that part of capital that has been consumed in producing revenue. It is the ultimate objectives of management to maximize profit over the long term consistent with its social responsibility. A business from is organized mainly with a motive of making profit and it is the primary measure of business success. Profit is the ultimate yardsticks of management's net in the interest of the consumer. Social criteria of business performance productions, rate of progress and behavior of prices. "Profit is a signal for allocation of resources and a yardstick for judging managerial efficiency" (Lynch and Williamson, 1993: 99). In fact earning is the primary objective of a business.

b. Planning

The meaning of planning is the decision about how to do something in the future planning opens the expenses for action. It is the method of thinking of work.

According to Roy-A Gentles, "The planning process, both short and long term, is the most crucial component of the whole system. It is both the foundation and the bond for the other elements because it is through the planning process that we determine what we are going to do now we are going to do and who is going to do it. It operates as the brain center of the organization and like the brain in both reasons and communicates" (Roy, 1983: 32).

Planning is essential to get the target. it reduces the potential crisis and helps to take the preventive way. Formal planning indicates the responsibility of management and provides an alternative to grouping without direction. It is a rational way, a systematic way of perceiving how business, individual or any other organization will get where it should be examining future alternative course of action open to any organization.

Profit planning can be defined as the set of steps that are taken by firms to achieve the desired level of profit. Planning is accomplished through the preparation of a number of budgets, which, when brought through, from an integrated business plan known as master budget. The master budget is an essential management tool that communicates management's plan throughout the organization, allocates resources, and coordinates activities.

Profit planning is the process of developing a plan of operation that makes it possible to determine how to arrange the operational budget so that the maximum amount of profit can be generated. There are several common uses for profit planning, with many of them focusing on the wise use of available resources. Along with the many benefits of this type of planning process, there are also a few limitations (Hilton, 2015: 119).

The actual process of profit planning involves looking at several key factors relevant to operational expenses. Putting together effective profit plans or budgets requires looking closely at such expenses as labor, raw materials, facilities maintenance and upkeep, and the cost of sales and marketing efforts. By looking closely at each of these areas, it is possible to determine what is required to perform the tasks efficiently, generate the most units for sale, and thus increase the chances of earning decent profits during the period under consideration. Understanding the costs related to production and sales generation also makes it possible to assess current market

conditions and design a price model that allows the products to be competitive in the marketplace, but still earn an equitable amount of profit on each unit sold.

There are several advantages to engaging in profit planning. The most obvious is evaluating the overall operation for efficiency. If profits for the most recently completed period fall short of projections, this prompts an investigation into what led to the lower returns. Changes can then be made to the operation in order to increase the chances for higher profits in the next period.

Necessary changes that may be uncovered as part of the profit planning process include increasing or decreasing the employee force, changing vendors of raw materials, or upgrading equipment and machinery that are key to the production of goods and services. In like manner, the need to restructure marketing campaigns so that more resources are directed toward strategies that are providing the greatest return, while minimizing or even eliminating allocations to strategies that are not producing significant results, may also become apparent as a result of this type of planning. Even issues such as changing shippers or making slight changes to packaging that trim expenses may be identified as part of the profit planning process (Koirala et al., 2017).

- a. Profit Planning
- b. Non Profit Plan
- c. Business Plan Profit
- d. Non Profit Strategic Planning
- e. Profit Planning And Budgeting
- f. Sample Business Plan For Non Profit
- g. Small Business Planning

While profit planning is a useful process in any business setting, there are some limitations on what can be accomplished. The effectiveness of the planning is only as good as the data that is assembled for use in the process. Should the data be incorrect or incomplete, the results of the planning are highly unlikely to produce the desired results. In addition, if the findings of the process do not result in the implementation of procedures and changes in the relevant areas of the business, the time spent on the profit planning is essentially wasted. For this reason, profit planning should be seen as

a starting point for operations and not simply recommendations of what should be done in order to increase profit margins.

Planning is the first function of management. It is performed continuously because the passages of time demand both re-planning and making new plans. Moreover, current feed back often necessary nearly planned action to

- a) Correct performance deficiencies
- b) Establishing enterprises objectives and goals
- c) Developing premises about the environment of the entity
- d) Making decision about course of action
- e) Evaluating performance feed back for re-planning

There are three types of planning i.e. long term planning, medium term planning and short term planning. It can be corporate planning or tactical planning. The types of planning depend upon the time period covered by it.

Long Range Planning

Long range planning is such type of planning which covers a period of five to ten years depending upon the size and nature of enterprises. Long range planning is most important basically for broad and long living enterprises. Peter Drucker says that long range planning decisions systematically and with the best, possible knowledge of their futurity, organizing systematically the efforts needed to carry out these decisions and measuring the results of those decisions against the expectation through organized, systematic feed back" (Drucker, 1950: 338).

The objectives of long range planning given by George R. Tery are as follows: (Tery, 1964: 12).

- i. To provide a clear picture of whether the enterprises is handed
- ii. To keep enterprise strong
- iii. To focus on long range opportunities
- iv. To evaluate management personnel
- v. To expenditure new financing

Medium Term Planning

Medium term planning is such type of planning which covers two or three years of period. This type of planning is to establish interim objective between long range goals and for use in the development of annual program and budget. In these causes, target with specific results and definite time tables must be developed. it is used mainly to determine the allocation of resources among competing activities and revised long ranged plans in view of more recent developments. Medium range planning after takes from of budgeting in which each divisions, department or units is allocated certain resources during the coming year. Medium term planning most correctly predicts general levels of economic activities. Since that affects such factors as revenues profit, costs and expenditures. More detail is involved in it than with short range but less than for long-range plans. While resources allocation in important final approval will only be required for the short-range and a consideration of alternatives is still possible (Hilton, 2015: 120).

Short Range Planning

The short range planning is such a planning which is within one year of period. The short range planning is selected to confirm to fiscal quarters or one year. Because of the practice needed for conforming plans to accounting periods, short range planning concerned with limited time period. Usually it cover one year time period. It is used by the management as substantial part of long range and medium range plan.

Comprehensive Profit Planning and Control

Comprehensive profit planning and control is a new term in the literature of business. Though it is a new term, it is not a new concept in management. The other terms, which can be used the other terms, which can be used in same context are comprehensive PPC. The PPC can be defined as process or technique of management that enhances the efficiency of management.

Some definition given by various scholars are:

"Comprehensive profit planning and control is a systematic and formalized approach for accomplishing the planning, co-ordination and control responsibilities of management" (Glenn, 1998: 870).

Similarly, According to the I.M. Pandey "A profit plan or budget is the formal expression of the enterprises plans and objectives stated in financial terms for a specified future period of time (Pandey, 1999: 18).

Profit planning and control involves development and application of:

- i) Broad and long range objectives for the enterprises
- ii) Specification of goals
- iii) Long range profit plan in broad terms
- iv) Tactical short range profit plan detailed by assigned responsibilities
- v) A system of periodic performance reports detailed by assigned responsibilities
- vi) Control system
- vii) Follow up procedures

c. Control System

Control means by which a variable quantity or set of variable quantities is made to conform to a prescribed norm. It either holds the values of the controlled quantities constant or causes them to vary in a prescribed way. A control system may be operated by electricity, by mechanical means, by fluid pressure (liquid or gas), or by a combination of means. When a computer is involved in the control circuit, it is usually more convenient to operate all of the control systems electrically, although intermixtures are fairly common.

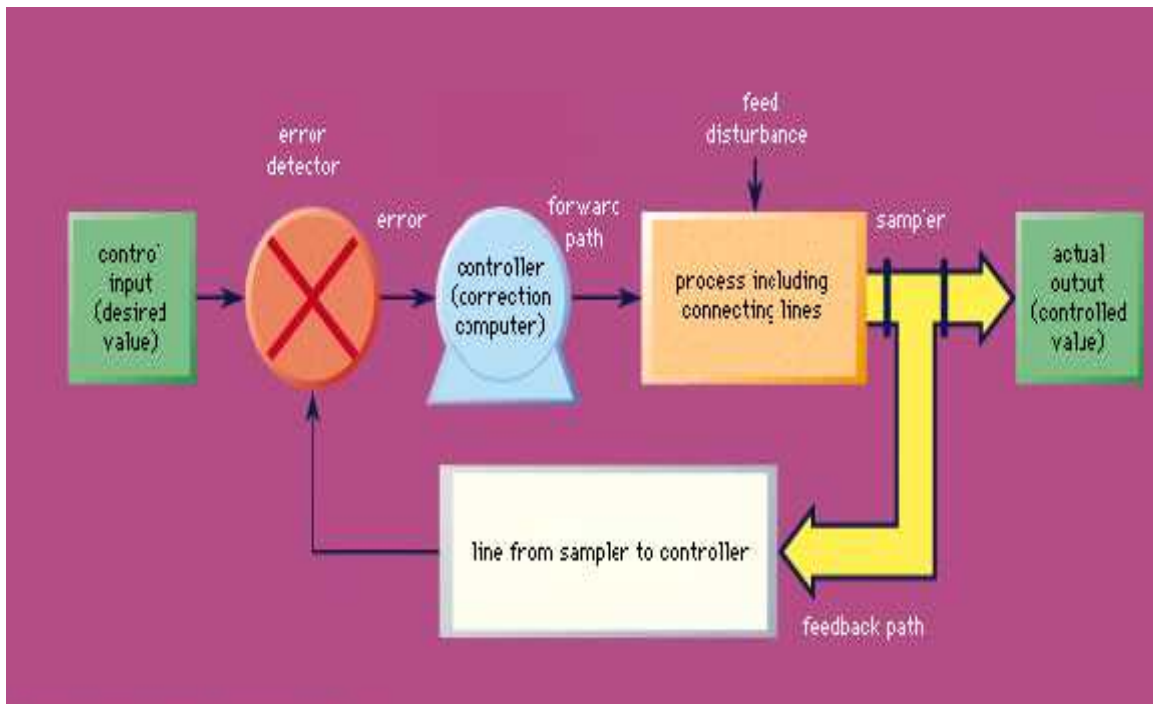
Control systems are intimately related to the concept of automation, but the two fundamental types of control systems, feedforward and feedback, have classic ancestry. The loom invented by Joseph Jacquard of France in 1801 is an early example of feedforward; a set of punched cards programmed the patterns woven by the loom; no information from the process was used to correct the machine's operation. Similar feedforward control was incorporated in a number of machine tools invented in the 19th century, in which a cutting tool followed the shape of a model.

Feedback control, in which information from the process is used to correct a machine's operation, has an even older history. Roman engineers maintained water levels for their aqueduct system by means of floating valves that opened and closed at appropriate levels. The Dutch windmill of the 17th century was kept facing the wind by the action of an auxiliary vane that moved the entire upper part of the mill. The most famous example from the Industrial Revolution is James Watt's flyball governor of 1769, a device that regulated steam flow to a steam engine to maintain constant engine speed despite a changing load.

The first theoretical analysis of a control system, which presented a differential-equation model of the Watt governor, was published by James Clerk Maxwell, the Scottish physicist, in the 19th century. Maxwell's work was soon generalized and control theory developed by a number of contributions, including a notable study of the automatic steering system of the U.S. battleship "New Mexico," published in 1922. The 1930s saw the development of electrical feedback in long-distance telephone amplifiers and of the general theory of the servomechanism, by which a small amount of power controls a very large amount and makes automatic corrections. The pneumatic controller, basic to the development of early automated systems in the chemical and petroleum industries, and the analogue computer followed. All of these developments formed the basis for elaboration of control-system theory and applications during World War II, such as anti-aircraft batteries and fire-control systems (Koirala, et al., 2017).

Most of the theoretical studies as well as the practical systems up to World War II were single-loop *i.e.*, they involved merely feedback from a single point and correction from a single point. In the 1950s the potential of multiple-loop systems came under investigation. In these systems feedback could be initiated at more than one point in a process and corrections made from more than one point. The introduction of analogue- and digital-computing equipment opened the way for much greater complexity in automatic-control theory, an advance since labelled "modern control" to distinguish it from the older, simpler, "classical control."

Basic Principles:



Source: Hays, 1994.

Figure 2.1: Essential Components of a Typical Closed-loop Control System

With few and relatively unimportant exceptions, all the modern control systems have two fundamental characteristics in common. These can be described as follows: (1) The value of the controlled quantity is varied by a motor (this word being used in a generalized sense), which draws its power from a local source rather than from an incoming signal. Thus there is available a large amount of power to effect necessary variations of the controlled quantity and to ensure that the operations of varying the controlled quantity do not load and distort the signals on which the accuracy of the control depends. (2) The rate at which energy is fed to the motor to effect variations in the value of the controlled quantity is determined more or less directly by some function of the difference between the actual and desired values of the controlled quantity. Thus, for example, in the case of a thermostatic heating system, the supply of fuel to the furnace is determined by whether the actual temperature is higher or lower than the desired temperature. A control system possessing these fundamental characteristics is called a closed-loop control system, or a servomechanism (see Figure 2.1). Open-loop control systems are feed forward systems.

The stability of a control system is determined to a large extent by its response to a suddenly applied signal, or transient. If such a signal causes the system to overcorrect itself, a phenomenon called hunting may occur in which the system first overcorrects itself in one direction and then overcorrects itself in the opposite direction. Because hunting is undesirable, measures are usually taken to correct it. The most common corrective measure is the addition of damping somewhere in the system. Damping slows down system response and avoids excessive overshoots or overcorrections. Damping can be in the form of electrical resistance in an electronic circuit, the application of a brake in a mechanical circuit, or forcing oil through a small orifice as in shock-absorber damping.

Another method of ascertaining the stability of a control system is to determine its frequency response *i.e.*, its response to a continuously varying input signal at various frequencies. The output of the control system is then compared to the input with respect to amplitude and to phase *i.e.*, the degree with which the input and output signals are out of step. Frequency response can be either determined experimentally especially in electrical systems or calculated mathematically if the constants of the system are known. Mathematical calculations are particularly useful for systems that can be described by ordinary linear differential equations. Graphic shortcuts also help greatly in the study of system responses.

Several other techniques enter into the design of advanced control systems. Adaptive control is the capability of the system to modify its own operation to achieve the best possible mode of operation. A general definition of adaptive control implies that an adaptive system must be capable of performing the following functions: providing continuous information about the present state of the system or identifying the process; comparing present system performance to the desired or optimum performance and making a decision to change the system to achieve the defined optimum performance; and initiating a proper modification to drive the control system to the optimum. These three principles identification, decision, and modification are inherent in any adaptive system (Hilton, 2015: 125).

Dynamic-optimizing control requires the control system to operate in such a way that a specific performance criterion is satisfied. This criterion is usually formulated in

such terms that the controlled system must move from the original to a new position in the minimum possible time or at minimum total cost.

Learning control implies that the control system contains sufficient computational ability so that it can develop representations of the mathematical model of the system being controlled and can modify its own operation to take advantage of this newly developed knowledge. Thus, the learning control system is a further development of the adaptive controller.

Multivariable-non-interacting control involves large systems in which the size of internal variables is dependent upon the values of other related variables of the process. Thus the single-loop techniques of classical control theory will not suffice. More sophisticated techniques must be used to develop appropriate control systems for such processes (Garrison and Noreen, 2017: 218).

Modern Control Practices

There are various cases in industrial control practice in which theoretical automatic control methods are not yet sufficiently advanced to design an automatic control system or completely to predict its effects. This situation is true of the very large, highly interconnected systems such as occur in many industrial plants. In this case, operations research, a mathematical technique for evaluating possible procedures in a given situation, can be of value.

In determining the actual physical control system to be installed in an industrial plant, the instrumentation or control-system engineer has a wide range of possible equipment and methods to use. He may choose to use a set of analogue-type instruments, those that use a continuously varying physical representation of the signal involved *i.e.*, a current, a voltage, or an air pressure. Devices built to handle such signals, generally called conventional devices, are capable of receiving only one input signal and delivering one output correction. Hence they are usually considered single-loop systems, and the total control system is built up of a collection of such devices. Analogue-type computers are available that can consider several variables at once for more complex control functions. These are very specific in their applications, however, and thus are not commonly used.

The number of control devices added to an industrial plant may vary widely from plant to plant. They may comprise only a few instruments that are used mainly as indicators of plant-operating conditions. The operator is thus made aware of off-normal conditions and he himself manually adjusts such plant operational devices as valves and speed regulators to maintain control. On the other hand, there may be devices of sufficient quantity and complexity so that nearly all the possible occurrences may be covered by a control-system action ensuring automatic control of any foreseeable failure or upset and thus making possible unattended control of the process (Garrison and Noreen, 2018: 219).

With the development of very reliable models in the late 1960s, digital computers quickly became popular elements of industrial-plant-control systems. Computers are applied to industrial control problems in three ways: for supervisory or optimizing control; direct digital control; and hierarchy control.

In supervisory or optimizing control the computer operates in an external or secondary capacity, changing the set points in the primary plant-control system either directly or through manual intervention. A chemical process, for example, may take place in a vat the temperature of which is thermostatically regulated. For various reasons, the supervisory control system might intervene to reset the thermostat to a different level. The task of supervisory control is thus to “trim” the plant operation, thereby lowering costs or increasing production. Though the overall potential for gain from supervisory control is sharply limited, a malfunction of the computer cannot adversely affect the plant.

In direct digital control a single digital computer replaces a group of single-loop analogue controllers. Its greater computational ability makes the substitution possible and also permits the application of more complex advanced-control techniques.

Hierarchy control attempts to apply computers to all the plant-control situations simultaneously. As such, it requires the most advanced computers and most sophisticated automatic-control devices to integrate the plant operation at every level from top-management decision to the movement of a valve.

The advantage offered by the digital computer over the conventional control system described earlier, costs being equal, is that the computer can be programmed readily

to carry out a wide variety of separate tasks. In addition, it is fairly easy to change the program so as to carry out a new or revised set of tasks should the nature of the process change or the previously proposed system prove to be inadequate for the proposed task. With digital computers, this can usually be done with no change to the physical equipment of the control system. For the conventional control case, some of the physical hardware apparatus of the control system must be replaced in order to achieve new functions or new implementations of them.

Control systems have become a major component of the automation of production lines in modern factories. Automation began in the late 1940s with the development of the transfer machine, a mechanical device for moving and positioning large objects on a production line (*e.g.*, partly finished automobile engine blocks). These early machines had no feedback control as described above. Instead, manual intervention was required for any final adjustment of position or other corrective action necessary. Because of their large size and cost, long production runs were necessary to justify the use of transfer machines (Hilton, 2015: 219).

The need to reduce the high labour content of manufactured goods, the requirement to handle much smaller production runs, the desire to gain increased accuracy of manufacture, combined with the need for sophisticated tests of the product during manufacture, have resulted in the recent development of computerized production monitors, testing devices, and feedback-controlled production robots. The programmability of the digital computer to handle a wide range of tasks along with the capability of rapid change to a new program has made it invaluable for these purposes. Similarly, the need to compensate for the effect of tool wear and other variations in automatic machining operations has required the institution of a feedback control of tool positioning and cutting rate in place of the formerly used direct mechanical motion. Again, the result is a more accurately finished final product with less chance for tool or manufacturing machine damage.

2.1.1.1 Budgeting as a Tool of Profit Planning

Once a firm's general goals for the planning period have been established, the next step is to set up a detailed plan of operation—the budget. A complete budget system

encompasses all aspects of the firm's operations over the planning period. It may even allow for changes in plans as required by factors outside the firm's control.

Budgeting is a part of the total planning activity of the firm, so it must begin with a statement of the firm's long-range plan. This plan includes a long-range sales forecast, which requires a determination of the number and types of products to be manufactured in the years encompassed by the long-range plan. Short-term budgets are formulated within the framework of the long-range plan. Normally, there is a budget for every individual product and for every significant activity of the firm.

Establishing budgetary controls requires a realistic understanding of the firm's activities. For example, a small firm purchases more parts and uses more labour and less machinery; a larger firm will buy raw materials and use machinery to manufacture end items. In consequence, the smaller firm should budget higher parts and labour cost ratios, while the larger firm should budget higher overhead cost ratios and larger investments in fixed assets. If standards are unrealistically high, frustrations and resentment will develop. If standards are unduly lax, costs will be out of control, profits will suffer, and employee morale will drop.

A budget is a detailed plan for acquiring and using financial and other resources over a specified period of time. It represents a plan for the future expressed in formal quantitative terms. The act of preparing a budget is called budgeting. The use of budgeting to control a firm's activities is called budgetary control (Horngren, 1983: 122)

Master budget is a summary of a company's plan that sets specific targets for sales, production, distribution, and financing activities. It generally culminates in cash budget, a budgeted income statement, and a budgeted balance sheet. In short, it represents a comprehensive expression of management's plans for the future and how these plans are to be accomplished.

Budgeting as a tool of planning and control is closely related to the broader system of planning and control in an organization. Planning involves the specification of the basis objectives that will guide it. In operational terms, it involves the step of setting objectives, specifying goals, formulating strategies and expressing budgets. A budget

is a comprehensive and coordinated plan expressed in financial terms (Kahn, 1994: 206).

A budget is a quantitative expression of a plan of action and aid to coordination and implementation. Budget may be formulated for the organization, as a whole or for any submit. Budgeting includes sales, production, distribution and financial aspects of an organization. budget programs are designed to carry out a variety of functions, Planning evaluating performance coordinating activities, implementing plans, communicating, motivating and authorizing actions" (Horngeen, 1983: 123). A budget is a written plan for the future. The managers of firms who use budgets are forced to plan ahead. A firm without financial goals may find it difficult to make proper decision.

2.1.1.2 Budgeting and Forecasting

Budgeting and forecasting are different to each other. A forecast is the likelihood of event or happening given the part of data and expected changes. There is no assumption regarding the commitment of management realizing the forecast. A budget is an expression of the management intention of achieving forecast through positive and conscious action and influencing the events. It embodies the managerial commitment of ensuring the attainment of stated objectives. It involves a process of negotiation, approval and review.

In contrast to a budget a forecast have the following features.

- a) It doesn't involve any commitment on the parts of the forecaster to attain the forecast.
- b) It is based on historical information and revises whenever new data become available.
- c) It need not necessarily be expressed in the financial term.
- d) It doesn't always confirm to one year period of time.
- e) It doesn't involve negotiation approval and review.

Financial forecasting

The financial manager must also make overall forecasts of future capital requirements to ensure that funds will be available to finance new investment programs. The first

step in making such a forecast is to obtain an estimate of sales during each year of the planning period. This estimate is worked out jointly by the marketing, production, and finance departments: the marketing manager estimates demand; the production manager estimates capacity; and the financial manager estimates availability of funds to finance new accounts receivable, inventories, and fixed assets.

For the predicted level of sales, the financial manager estimates the funds that will be available from the company's operations and compares this amount with what will be needed to pay for the new fixed assets (machinery, equipment, etc.). If the growth rate exceeds 10 percent a year, asset requirements are likely to exceed internal sources of funds, so plans must be made to finance them by issuing securities. If, on the other hand, growth is slow, more funds will be generated than are required to support the estimated growth in sales. In this case, the financial manager will consider a number of alternatives, including increasing dividends to stockholders, retiring debt, using excess funds to acquire other firms, or, perhaps, increasing expenditures on research and development.

2.1.1.3 Modern Budgeting for Profit Planning & Control

A budget is the formal expression of plans, goals, and objectives of management that covers all aspects of operations for a designated time period. The budget is a tool providing targets and direction. Budgets provide control over the immediate environment, help to master the financial aspects of the job and department, and solve problems before they occur. Budgets focus on the importance of evaluating alternative actions before decisions are actually implemented. This course explains what budgets are, how they work, how to prepare and present them, and how to analyze budget figures and results. The new development and use of budgets at various managerial levels within a business are discussed. The course is intended for business professionals engaged in budgeting, financial planning, profit planning, and control.

This course is intended for business professionals engaged in budgeting, financial planning, forecasting, profit planning, and control. A budget is the formal expression of plans, goals, and objectives of management that covers all aspects of operations for a designated time period. The budget is a tool providing targets and direction. Budgets provide control over the immediate environment, help to master the financial

aspects of the job and department, and solve problems before they occur. Budgets focus on the importance of evaluating alternative actions before decisions are actually implemented. This course explains what budgets are, how they work, how to prepare and present them, and how to analyze budget figures and results. The development and use of budgets at various managerial levels within a business are discussed, as well as active financial planning software that combines budgeting, forecasting analytics, business intelligence, and collaboration. (Source: American CPE: americancpe.com/Merchant2/merchant.mvc?Screen=PROD&...).

2.1.1.4 Components of PPC

A PPC should have its components that are required to fulfill the objectives. The outline of the component of a typical PPC program is given below:

a. The Substantive Plan

- Broad objectives of the enterprises
- Specific enterprises goals
- Enterprise strategic
- Executive management planning instruction

b. Financial Plan

1. Strategic long range profit plan
 - (I) Sales, cost and profit projection
 - (II) Major projects and capital additions
 - (III) Cash flow and financing
 - (IV) Personnel requirement
2. Tactical short range profit plan.
 - (I) Sales plan
 - (II) Production plan
 - (III) Administrative expenses budget
 - (IV) Distribution expenses budget
 - (V) Appropriation type budget (e.g. P&D, promotion advertising)

c) Financial Position Plan

Planned balance sheet

- (I) Assets
- (II) Liabilities
- (III) Owner's equity

d) Variable expense budget

e) Supplementary data (e.g. cost volume profit analysis, ratio analysis)

f) Performance reports

g) Follow-up, corrective action and re-planning reports

2.1.1.5 Principal and Purpose of Profit Planning

The principal and purpose of profit planning are:

- a) To provide a realistic estimate of income and expenses for a period
- b) To provide a co-ordinate plan of action which is designed to achieve the estimates reflected in the budget.
- c) To provide a comparison of actual results with these budgeted and an analysis and interpretation of deviation by areas of responsibility to indicate course of action and lead to improvement in procedures in building future plans.
- d) To provide a guide for management decision in adjusting plans and objectives an uncontrollable condition changes (Jasse and William, 1966: 38).

2.1.2 Important of Profit Planning

The profit planning and control is applicable approach to all kinds of organizations whether those are small, huge, manufacturing, service etc. The profit planning program helps the management performs it planning functions by developing a strategic profit plan and tactical profit plan. Both of these plans include monetary expectation for assets, liabilities, profit and return on investment. Besides, the PPC, some significant behavioral implication such as developing reinforcement, improving motivation, developing goals, copes with the effects of budgetary pressure resolving budget and using budget for control. The following advantages can be drawn from PPC program.

- a) This programs identifies the changes
- b) It forces the management to keep adequate and correct historical data in the business
- c) PPC forces early consideration of basic policies
- d) It forces the management to take necessary step for getting satisfactory results.
- e) It is a process of self-examination and self criticism which is essential for the success of any enterprises.
- f) It promotes understanding among member of management of their co-worker problems.
- g) It tends to remove the cloud of uncertainly that exists in many basic policies and enterprise objectives.
- h) It create among the members of management of considering timely and carefully all the related factors before reaching on a decision
- i) It measures efficiency, permits management self evaluation and indicates the progress in attaining the enterprises objectives.
- j) It leads to maximum and most economical utilization of material labors, capital and other resources with a view to ensure maximum return.

2.1.3 Problems and Limitations of PPC

PPC is a systematic approach to the solution of problems but it is not a prefect itself. It suffers from certain problem and limitations. The major problems of PPC are (Pandey, 1999: 306):

- i) Applying the PPC system in flexible manner
- ii) Developing meaningful forecast on plans specially the sales plan.
- iii) Seeking the support and involvement of all levels of management.
- iv) Establishing realistic objectives, policies, procedures and standard of desired performance.
- v) Educating all individual to be involved in PPC process and gaining their full participation.

Management must consider the following limitations in using the PPC system to solve managerial problems (Pandey, 1999 : 309).

- i) PPC is based on estimation

- ii) It is not realistic to write out and distribute goals policies and guidelines to all the suspensors.
- iii) A PPC program must be continuously adopted to fit the changing circumstances.
- iv) Execution of profit plan will not occur automatically, profit plan will be effective only if all responsible executive exert continuous and aggressive efforts towards their accomplishments.
- v) Budgeting places too great a demand on management time especially to revise budgets constantly to much paper work is required.
- vi) It creates all kinds of behavioral problems.
- vii) It adds a level of complexity that is not needed.
- viii) It is too costly.
- ix) Danger of rigidity. The PPC must be flexible and dynamic in every sense.
- x) Proper evaluation should be made to find out the inefficiencies. On the absence of proper evaluation budgeting will hide inefficiencies.

2.1.4 Process of PPC

The processes of PPC are:

- i) Identification and evaluation of external variables.
- ii) Development of broad objectives of the enterprises.
- iii) Development of the specific goals of the enterprises.
- iv) Development and evaluation of company strategic.
- v) Executive management planning instruction.
- vi) Preparation and evaluation of project plan.
- vii) Development and approval of strategic and tactical profit plans.
- viii) Implementation of profit plans.
- ix) Use of flexible expenses budget.
- x) Implementation of follow up.

2.1.5 Development of Profit Plan

2.1.5.1 Sales Plans

The starting point in preparing profit plan is the sales plan, which displays the projected sales in units and rupees. The sales planning process is an essential part of profit plan and control because it provides for the basic management decision about marketing and based on these decisions, it is an organized approach for developing a comprehensive sales plan. If sales plan is not realistic and relevant, most profit plans are also not realistic. Therefore, if the management believes that a realistic sales plan can not be developed there is little justification for PPC similarly if it is really impossible to assess the future revenue potential of a business; there would be little or no incentive to investors and prospective investors. Hence, the sales plan is both ends and means of PPC.

The sales plan is the foundation for periodic planning in the firm because practically all other enterprises planning is built on it. The primary source of cash is sales, the need of capital additions, the plan o expenses, the manpower requirement production level, and other important operational aspects depend on the volume of sales. A comprehensive sales plan includes two separate but related plans, the strategic and tactical sales plans. A comprehensive sales plan incorporates such management decisions as objectives, goals, strategies and premise. Both long term and short-term plans must be developed in harmony with comprehensive profit plan.

The primary purposes of sales plane are:

- a. To reduce under certainty about future revenue.
- b. To incorporate management judgment and decisions into the planning process.
- c. To provide necessary information for developing other elements of comprehensive profit plan.
- d. To facilitate management control of sales activities.

Sales Forecasting and Sales Planning

Although sales planning and sales forecasting are usually used synonymously, they have distinctly different purpose. A forecast is not a plan rather is it a statement of a

future condition about the particular subject 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 for the development of sales plan. The management of the company may accept, modify or reject the forecast. In contrast, a sales plan incorporates the management decisions that based on the forecast, other inputs and management judgment about such related items as sales volume, prices, sales, efforts production and financing.

It is important to make a distinction between the sales forecast and the sales plan primarily because the internal technical staff should not be expected or permitted to make the fundamental management decision and judgments implicit in every sales plan. The major difference between sales forecast and sales budget can be attributed as:

- i) The sales forecast is merely the initial estimate of future sales, where as plan sales is the projection approved by the budget committee that describes expected sales in units and rupees.
- ii) Sales forecast is a merely well educated estimate of future expected demand of a specific product where as sales budget is the quantitative expression of business plan and policies to be pursued in future.
- iii) A sale plan provides standard for comparison with the result actually achieved, thus it is an important control device of management, whereas forecasting represents merely a probable events over which no control can be exercised.
- iv) Sales plan beings where and when sales forecast end. sales forecast is the input to sales plan; sales plan is the foundation to PPC

Strategic and Tactical Sales Plan

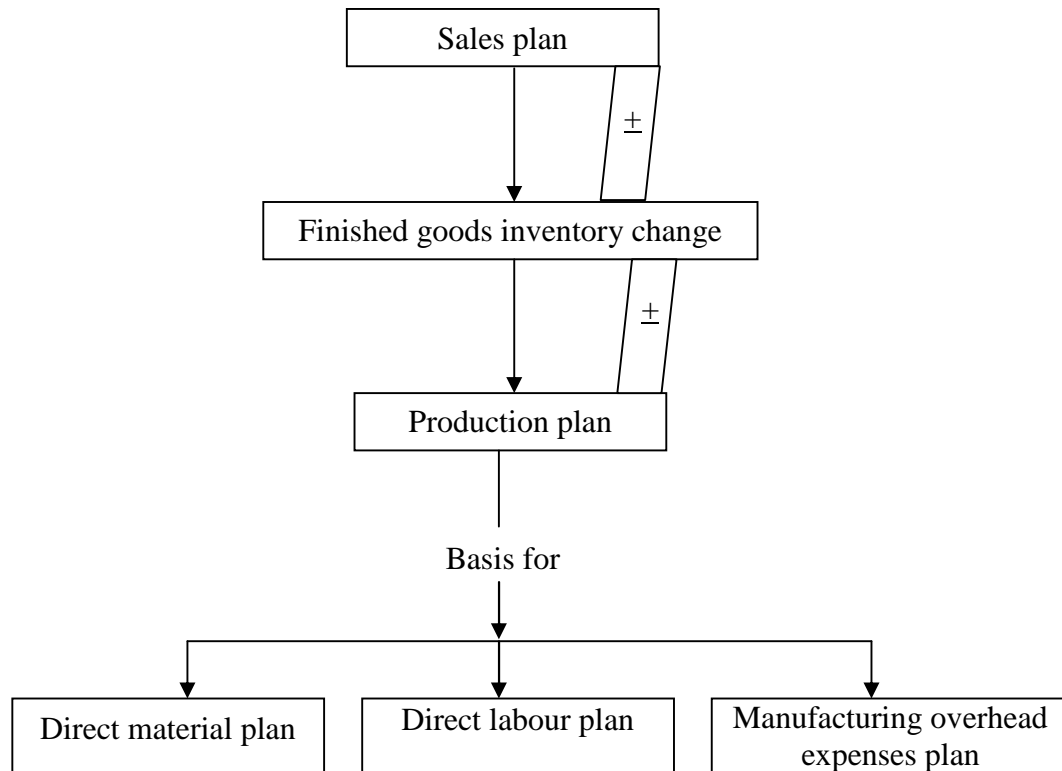
Strategic Sales Plan: - Strategic sales plan is the long range sales plan of enterprises. Usually it is of 5 to 10 years. It is broad and general. It is usually developed by year and annual amount. It is prepared by considering future market potentials, popular changes, state of economy, industry projections company objectives and long-term strategies because they affect in such areas as pricing, development of new product line, innovation of product, expansion or distribution channel, cost pattern etc.

Tactical Sales Plan: - Tactical sales plan is a short-range sales plan. It is developed for a short period of time usually a year. Initially by quarters and by months for the first quarters. The tactical sales plan includes a detailed plan for each major product and for grouping of minor products. Tactical sales plan are usually developed in terms of physical units and in sales rupees.

2.1.5.2 Production Plan

A next step in the manufacturing enterprises after a tentative approval of sales plan is the preparation of a production plan. The production plan is an important tool of planning, coordination and control in a manufacturing organization. Development of a production plan requires the conversion of sales plan into production program. It interlinks the activities such as materials planning, labor planning, overhead planning etc.

The production plan specifies the planned volume of each product to be produced for each time period throughout the planning period. This entails the development of policies about efficient production levels, use of productive facilities and inventory levels. The quantities specified in the marketing plan. Adjusted to conform to production and inventory policies, give the volume of goods that must be manufactured. It can be presented in equation:



Source: Ojha and Gautam, 2066.

2.1.5.3 Material Budget

After the sales and production has been estimated, the next steps is to prepare material purchase budget. When the production budget is completed then the requirement of raw materials and components are used in the process of material budget. Based on the production budgets, the qualities of each material are determined and this determination of material usage solved the problem of when and how much to purchase of material. A purchase budgets gives the details of materials purchase to be made in the budget period. The function of purchase budget is to plan purchase, so that firm will never run out of inventory, such purchase plan should be made in such a way that inventory of raw material are kept as low as possible without losing the planned product because the higher inventory the higher cost will occur, while preparing the materials plan there should be serious consideration to coordinate among the following items.

- a. Production requirements for material and components parts.
- b. Raw requirements and parts inventory levels.
- c. Purchase of raw materials.

To ensure that the appropriate amount of raw materials and component parts, the tactical short term profit plan should include.

- a) A detailed budget that specifics the quantity and cost of such materials and parts
- b) A related budget of material and parts purchase.

This materials and purchase budget while usually requires the following four sub-budget.

- a) Materials and parts budget:- This specified the planned quantities of each raw materials and part required for planed production by time, product and responsibility center.
- b) Material and parts purchase budget:- This specifies the quantities and timing of each materials and components part needed to purchase, the estimated cost and required delivery date.

- c) Materials and parts inventory budget:- This specifies the planned level of raw materials and raw materials and parts inventory in term of quantities and cost.
- d) Costs of materials and part use budget:- This specifies the planed cost of materials and parts that will be used in the productive process.

The materials and purchase budget and it's sub budgets should be designed in such a way that the related activities and cost will be budgeted in term of responsibilities centers.

2.1.5.4 Direct Labor Cost Budget/Plan

Labor costs, in a broad sense, are composed of all expenditures incurred for employees; top executives, middle management personnel, staff officers, supervisor, foreman, skilled workers and unskilled workers. It is necessary to consider separately the different types of labor costs. Labor is generally classified as direct and indirect labor. Direct labor comprises all the worker's who were directly on specific productive output. Hence, as with direct material costs, direct labor costs are directly traceable to output. The labor who work or support productions indirectly are classified as indirect labor. Indirect labor last is a part of manufacturing overhead budget.

The direct labor budget is also developed from the production budget. Firstly, direct labor requirement must be computed so that the company will know whether sufficient labor is available to meet production needs. By knowing in advance, the company can develop a plan to adjust the labor force as the situation may require. Direct labor requirements can be computed by multiplying product to be produced in each period by the number of direct labor-hours required to produce a unit. Many different types of labor may be involved. If so, then the computation should be made of the type of labor needed. The direct labor hours resulting from these computations can then be multiplied by the direct labor cost per hour to obtain the budgeted total direct labor cost.

Components of Direct Labor Budget/Plan

Basically, there are three components of direct labor budget.

1. Direct Labor Hour Budget: - Direct labor hour budget estimates the total direct labor hours required for each product by time and responsibility. It is computed as:

Total direct labor hours required = Planned production x Standard time required per unit of outputs

2. Manpower Budget: - Manpower budget estimates the number of each kind of manpower by department and time. $\text{Number of labor} = \frac{\text{Total hours required}}{\text{working hours per person per month}}$.

Working hours per person per month = Normal working hours per person per day x Working days in a month

2. Direct Labor Cost Budget: - Direct labor cost budget estimates the total direct labor costs by product, time and responsibility. To get direct labor costs budget, first estimates the average wages rate by department. Then multiplication of the standard time per unit of product by the average wage rates gives the labor cost per unit of production for the department. The multiplication of departments, cost centers, or operations total units by the unit labor cost rate gives the total direct labor costs for each product.

2.1.5.5 Overhead Expenses Budget

Meaning:- The next step in the tactical profit plan, the expenses budget is necessary to maintain the expenses level in reasonable. There are three broad categories of expenses, manufacturing overhead, distribution expenses and general administrative expenses and for this three separate sub-budget are prepared.

"Expenses planning should not focus on decreasing expenses but rather on better utilization of limited resources. Expenses planning and control should focus in the relationship between expenditures and the benefits derived from these expenditures. The desired benefit should be viewed as goals and sufficient resources must be planned to support the operation activities essential for their accomplishment" (Welsch, 1998, 302).

The expense of planning the knowledge of cost behavior is important cost behavior is the response of a cost to different volume of output. There are three distinct categories of expenses when they are viewed in relation to change in output.

- a) Fixed Expenses:- Constant in total directly with change in output, constant per unit.
- b) Some Variable Expenses:- Neither fixed nor variable change in the same direction of output but not proportionately

The expenses budget should be in total for each responsibility centers and by interim time periods. The expenses can be divided into three sub budget.

a. Planning Manufacturing Overhead

Manufacturing overhead is that part of total production cost, not directly identifiable with specific products. It consists of a) indirect material b) indirect labor c) All other miscellaneous factory expenses such as taxes, insurance, depreciation, supplies, utilizes and repairs. Manufacturing expenses include many dissimilar expenses, which can cause problem in the allocation of these costs to products.

Two types of responsibility centers: production and services are common in most manufacturing firms. Production department work directly on the products manufactured. Service department do not work on the products directly but rather furnish services to the production department and to other service departments.

For budgeting purposes, manufacturing overhead involves the following two problems.

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

b. Planning Administrative Expenses

Administrative expenses include these expenses other than manufacturing and distribution. They are incurred in the responsibility centers that provides supervision of and service to all function of the enterprises rather than in the performance of only one function. Because long portion of administrative expenses are fixed rather than variable, general administrative expenses are generally determined by top

management therefore, there is strong tendency to overlook their magnitude of effect on profits. Each administrative expense should be directly identified with a responsibility center and the concerned manager should be responsible for planning and controlling expenses. It is advisable on specific plans and programs.

c. Planning Distribution (Selling) Expenses

Distribution expenses include all cost related to selling, distribution and delivery of product to customers. The two primary aspects of planning distribution expenses are:

Planning and coordination:- Marketing executives are directly responsible for planning the optimum economic balance between a) Sales budgets b) The advertising budget c) The distribution expenses budget. PPC views them as three separate problems.

Control of Distribution Expenses:- Distribution includes a) Head office expenses and b) field expenses. From the planning and control point of view, these expenses must be planned by responsibility center. These expenses are not product costs. They are not allocated to special products. So, separate distribution expenses plan should be developed for each responsibility center.

2.1.5.6 Capital Expenditure Budget

“The investment decision of a firm are often referred to as capital budgeting. A capital budgeting decision may be defined as the firm's decision to invest its current funds most efficiently in long term assets in anticipation of an expected flow of benefits over a series of years" (Pandey, 1999: 353). Capital budgeting is the making of long term planning decisions for investment and their financial capital budgeting then consists in planning the development of available capital for the purpose of maximizing the long term profitability of the firm. A capital expenditure is the use of funds to obtain operational assets that will help earn future revenue or reduce future costs.

Thus capital budgeting is the process of planning and controlling the strategic and tactical expenditures for expansion and contraction of investments in operating assets. Capital expenditure includes such fixed assets as property, plant, equipment, and

patents. Typically, capital expenditure projects involve large amount of cash. Capital expenditure involves two major planning and controlling phase. a) Investment b) Expenses. Capital expenditure budget is the formal plan for the expenditure of money to purchase fixed assets. It is an internal corporate document that lists the allocated investment projects for a given fiscal period. Capital budgeting involves the generating of investment proposals, the evaluation of cash flow, the selection of project based on acceptance criterion and finally continual evaluation of investment project after their acceptance (Van Horne, 2000: 66).

Thus, capital budgeting involves the following steps.

- a) Consideration of investment proposal including alternatives.
- b) Application of profit, cash flows and analysis of cost benefit of the project.
- c) Estimation of available funds and utilization of funds.
- d) Maximization of profit with the utilization of available funds.

The top executive working with other members of executive management has the primary responsibility for the capital additions budget. However, the primary responsibility for the projects and other proposals should include divisional departmental managers.

There are three stages of capital budgeting proposal generation, analysis and implementation. The important steps involved in capital budgeting process are a) Project generation b) Project evaluation c) Project selection and d) Project execution. The process for planning and controlling capital expenditure as suggested by Welsh, Hilward and Gordan are!

- i) Identify and generate capital additions project and other needs.
- ii) Develop and refine capital additions proposal.
- iii) Analyze the evaluate all capital additions proposals and alternative.
- iv) Make capital expenditure decisions to accept the best alternative and the assignment of project designation to select the alternative.
- v) Develop the capital expenditure budget.
- vi) Establish control of capital expenditure during the budget year by using periodic and special performance report by responsibility enters.

- vii) Conduct past completion audit and follow-up evaluation of the actual results from capital expenditure in periods after completion.

Capital Expenditure Decision

The crucial capital expenditure decisions are the choices of management from the completing capital expenditure alternatively such decisions most focus on two over rising problems.

- a) Investment Decision:- Selecting the best alternatives based on their economic worth to the competitive investment world.
- b) Financing Decisions: - Determination the amounts and source of funds needed pay for the selected alternatives. This cash constraint may necessarily limit the project cash proposals that can be initiated.

Numerous methods are available for measuring economic value or investment worth of the contemplated proposals. Some common and widely used methods are listed under:

- a. Discounted cash flow method
 - i) Net present value (NPV)
 - ii) Internal rate of return (IRR)
 - iii) Profitability index (PI)
- b. Traditional/ simple method
 - i) Payback period (PBP)
 - ii) Average rate of return (ARR)

2.1.5.7 Cash Budget

Cash budget is the most important tools of cash management. It is an integral part of cash planning. The cash budget is plan of future cash receipt and payment. The statement showing the estimate cash income and cash expenditure over a projected time period is known as cash budget. The forecast of cash flows are made on the basis of past behavior of cash flows as modified and adjusted to likely changes during the coming period.

For an estimation closing balance of cash, receipt of cash and payment of cash budgets has to prepare. The cash budget focuses exclusively on the amount and timing of cash inflow and outflow. The primary purposes of cash budget are:

- a) To give probable cash position at the end of each period as a result of planned operations.
- b) To identify cash excess on shortage by time.
- c) To establish the need for financing and or the availability of idle cash for investment
- d) To coordinate cash with total working capital, sales revenue, expenses, investments and liabilities.
- e) To establish a sound basis for continuous monitoring of the cash position.

The primary approaches used to develop cash budget are:

1. Cash receipts and disbursements approach.
2. Financial accounting approach.

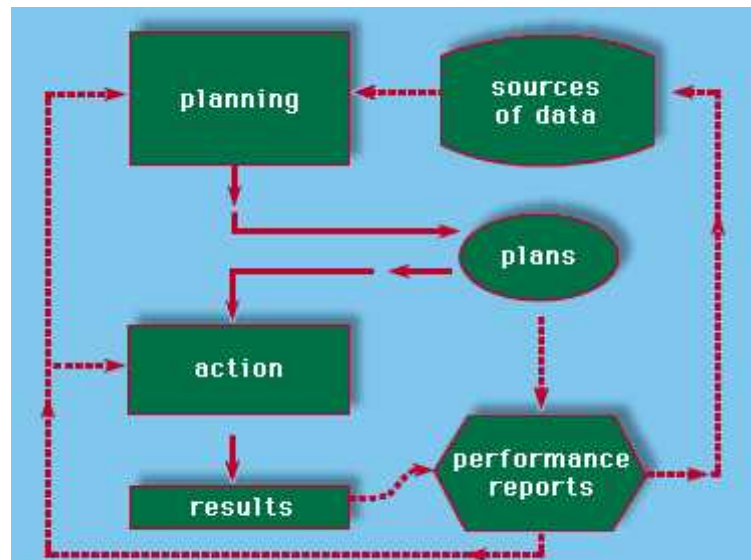
2.1.6 Performance Report

Management devotes and contributes its considerable effort and timely in resource planning. So the achievement of planned profit is essential the evaluation of how efficiently and how effectively goals and targets have been achieved thorough control activities. Control is the process of obtaining conformity of actual performance, with planned course of action. Control is related with the reporting of evaluated result. So, it is the most important part of comprehensive PPC.

Performance report is a controlling tool of comprehensive PPC. It is prepared periodically and monthly or quarterly basis and it submitted to concerned persons and departments though authorized channels. Performance reports are internal management tool and designed to facilitate internal control by the management performance reports are comparison between actual results and budgeted targets. They show the reality about performance weather they are favorable or unfavorable. Another important aspect of performance report is to minimize the time gap between the decision and report. The firm may have to suffer a great loss if unfavorable variance between planned and actual performance, immediate corrective action should be taken as already stated, the main purpose of performance report is to show variances, such variances should be expressed in amount as well as percentages of the planned figure. Statistical control tool should be used to determine the significance of

variance. Monthly performance report should show the performance for the period being reported and cumulative variance to date by each responsibility center.

The first major component of internal accounting systems for management's use is the [company's](#) system for establishing budgetary plans and setting performance standards. The setting of performance standards also requires a system for measuring actual results and reporting differences between actual performance and the plans.



Source: Hilton, 2015: 55.

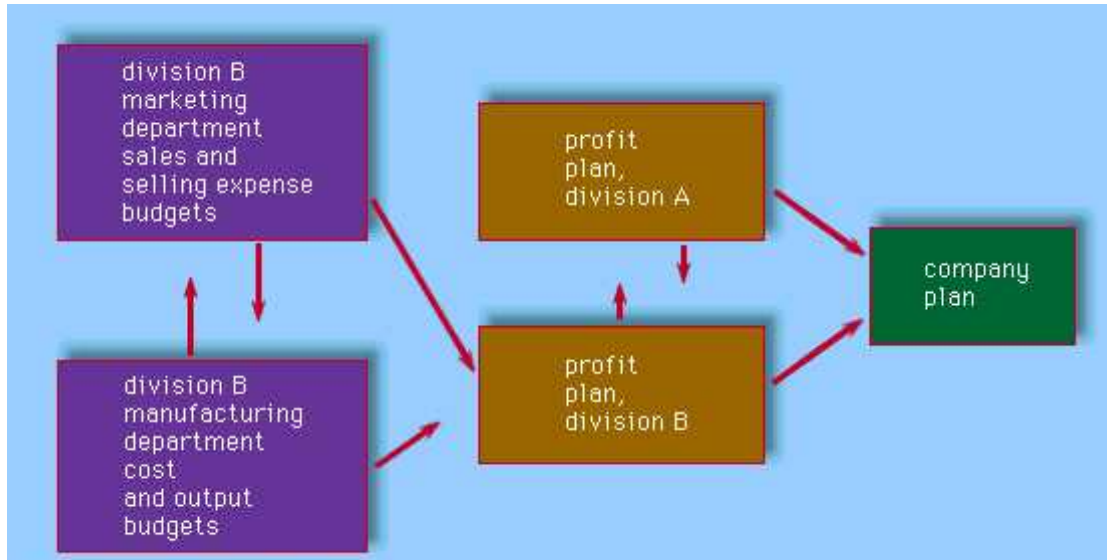
Figure 2.2: Budget Planning and Performance Reporting

The simplified diagram in figure 2.2 illustrates the relationships between these elements. The planning process leads to the establishment of explicit plans, which then are translated into action. The results of these actions are compared with the plans and reported in comparative form (performance reports). Management can then respond to substantial deviations from plan, either by taking corrective action or, if outside conditions differ from those predicted or assumed in the plans, by preparing revised plans.

Although plans can range from broad, strategic outlines of the company's future to detailed schedules for specific projects, most business plans are periodic plans—that is, they outline company operations for a specified period of time. These periodic plans are summarized in a series of projected financial statements, or budgets.

The two principal budget statements are the [profit](#) plan and the cash forecast. The profit plan is an estimated income statement for the budget period. It summarizes the

planned level of selling effort, shown as selling expense, and the results of that effort, shown as sales revenue and the accompanying cost of goods sold. Separate profit plans are ordinarily prepared for each major segment of a company's operations.



Source: Hilton, 2015: 57.

Figure 2.3: Relationship of Company Profit Plan to Responsibility Structure

The details underlying the profit plan are contained in departmental sales and cost budgets, each part identified with the executive or group responsible for carrying it out. Figure 2.3 shows the essence of this relationship: the company's profit plan is really the integrated product of the plans of its two major product divisions. The arrows connecting the two divisional plans represent the coordinative communications that tie them together on matters of mutual concern.

The diagram also moves one level down, showing that division B's profit plan is really a coordinated synthesis of the plans of the division's marketing department and manufacturing department. Arrows again emphasize the necessary coordination between the two. Each of these departmental plans, in turn, is a summary of the plans of the major offices, plants, or other units within the division. A complete representation of the company's profit plan could be created by extending the diagram through several organizational layers to account for every responsibility centre in the company.

2.2 Review of Related Studies

2.2.1 Review of Journals and Articles

Haugen and Banker (2012), published an article “*Commonality in the Determinants of Expected Stock Returns.*” They presented with evidence that the determinants of the

cross section of expected stock return were stable in their identify and influence from period to period and from country. The determinants were related to risk, liquidity, price level, growth potential and stock price history. Out of sample predications of expected returns, using moving average values for the pay-offs to these firm characteristics were strongly and consistently accurate. Two findings, however, distinguished their paper from others in the contemporary literature. First, the stock with higher expected and realized rate of return was unambiguously of lower risk than the stocks with lower returns. Second, they found that the important determinants of expected stock returns were strikingly common to the major equity markets of the world. Given the nature of the texts, it was highly unlikely that those results may be attributed to bias or data snooping. Consequently, the result seems to reveal a major failure in the efficient market hypothesis.

Sharma (2013), published an article on “*Joint Venture Banks in Nepal Co-Existing and Crowding Out*” published on 2013 volume 35 said that, it would be definitely be unwise for Nepal not to let the JVBs to operate in the country and not to take advantages of them as additional means of resources mobilization as well as harbinger of new era in banking. But it will certainly be unfortunate for the country to develop the JVB s. And the most of the cost of the domestic banks .so far, one should admit frankly, no different treatment has been extended to the domestic and JVB s; at least from the government side, which is commendable. If Government keeps on the stance of treating the domestic and JVBs; equally deposit the leathers bargaining strength and the JVBs also show their alacrity to come forward to share the trials and the tribulations of this poor country. Both type of banks will coalesce and co-exists, complimenting each other and contributing for the nations accelerate developments. On the contrary, if the JVBs use their straight against trading in to the cumbersome path of the development along with the domestic banks and government.

Poudel (2014), "*Financial Statement Analysis: An Approach to Evaluate Bank's Performance*" published in NRB Samachar said that the balance sheet, profit and loss account and the accompanying notes are the most useful aspects of the bank. We need to understand the major characteristics of bank's balance sheet and profit and loss account. The bank's balance sheet is composed of financial claims as liabilities in the form of deposits and as assets in the form of loans. Fixed assets accounts form a small portion of the total assets. Financial innovations, which are generally contingent in nature, are considered as off-balance sheet items. Interest received on loans/advances and investments and paid on deposits are the major components of profit and loss

account. The other sources of income are fee, commission, discount and service charges. The users of the financial statements of a bank need relevant, reliable and comparable information, which assist them in evaluating the financial position and performance of the bank and which is useful to them in making economic decisions. The disclosure requirement of the bank's financial statement has been expressly laid down in the concerned act. Commercial Bank Act 2031 B.S. requires the audited balance sheet and profit and loss account to be published in the leading newspaper for the information of general public.

Mundul (2015), had published an article entitled "*Corporate Financial Sector: Restructuring.*" He mentioned that corporate and financial sector restructuring are two aspects of the same problem. The amount of debt and company can sustain – and on which lenders can expect reliable debt service - is determined by the unit's cashflow. Indeed, a company cannot sustain interest payments in excess of its cashflow (i.e. interest coverage < 1:1), let alone make any repayments on the principal. Hence, substantially higher ratios of interest coverage are most desirable. He concluded that the corporate debtors and financial institution creditors will naturally seek to minimize their losses from corporate restructuring. The government has a role to play in balancing a variety of conflict interest (Mundul, 2015).

2.2.2 Review of Theses

Prior to this study, the several researchers have found various studies regarding profit planning and control of commercial banks. In this study, only relevant subject matters are reviewed which are as follows:-

Sharma (2010), has submitted his research work on the topic of "Revenue collection of Nepal Electricity Authority" he has tried to analyze and evaluate the revenue collection of NEA. He has pointed out the specific objectives are:

- a. To highlight the NEA through its objectives, function and activities.
- b. To analyze the revenue trend by taking recent years variables.
- c. To give pragmatic suggestion for improving the performance in accordance with revenue collection.

On the basis of detail analysis of revenue collection in NEA conducted this study. He pointed out the following major findings.

- a. The revenue of NEA is increasing yearly among the three sectors of revenue collection like domestic, industrial and other. The revenue collection from other sources is unable to meet average revenue collection of NEA
- b. There has been fluctuating in the increasing revenue. It shows up and down by the cause of poor managerial decision and poor government policies.
- c. The revenue from industrial sector, domestic and other sector are fluctuated respectively.
- d. There are more risk to industrial sectors than other sectors. It means the revenue generating from industrial sector is more than other sectors.
- e. There is positive relationship between revenue generation and profitability of NEA but there is positive correlation in negative profitability therefore to increase in profit, the operating cost and other cost should be controlled.
- f. There can not be improved in the revenue collection of NEA. In spite of the government efforts, there are various problems like structural problems, social problem, economic problems and bureaucratic culture in staff etc.

Tiwari (2012), had conducted his research entitled "Profit Planning in Nepal Electricity Authority." He has tried to examine whether the NEA applying profit planning system properly or not analyzed if there is any draw back in profit planning system of the authority. The basic objectives of this study are as follows.

Some major findings pointed by Tiwari are:-

- a. The authority fails to maintain its performance report systematically.
- b. Low level staffs are not encourages to participation but only executive level.
- c. Total acid turnover ratio, profitability ratio, return on net capital employed ratio are perfectly satisfactory.
- d. Overhead are not classified systematically and creates problem to analyze its expenses proper.
- e. The authority is suffering from high fixed cost.
- f. Specific goals and objectives are not conveyed to lower level staff and it denotes the absence of MBO principle of management.
- g. There is lack of proper coordination between the various responsible departments.
- h. Absence of skilled and partly academic manpower in budgeting section of authority.

Uprety (2013) had conducted a research on “Profit Planning and Control of Commercial Banks in Nepal.” In his study, he has selected Machhapuchhre Bank Limited as a sample bank. This study an analytical and descriptive type of research. The main objective of his study was to examine the main approaches of profit planning and to test the extant of achievement of planning of Machhapuchhre Bank Limited.

To complete the research, he has collected data from various sources are managed, analyzed and presented in proper tables and formats. He was mainly based on secondary data published by MBL. Both financial and statistical tool were used in his study. In financial tools CVP analysis and flexible budget were used. Similarly the statistical tools used were mean correlation, regression line, time series, coefficient of variance standard deviation, graphs, diagrams etc.

Uprety has stated following major findings which are as follows:

- a. Machhapuchchhere Bank Ltd lacks active and organized planning department of undertake innovative products research, lunch and development work.
- b. Management is not free to operate the bank. Intervention of NRB and ministry of finance regarding personnel places and other matters has paralyzed the effectives of the bank.
- c. The analysis of the position of deposit in MBL shows that the deposit, which are raised by the bank is not fully utilized. In fact this also reflects the lack of definite policy of the MBL.
- d. MBL has the most sophisticate GLOBUS banking software enabling it to provide modern banking facilities like tale banking, internet banking point of sale services, ATM facilities, SWIFT facility and many more.
- e. It is the first private commercial Bank to keep sophisticated communication technology which has interlinked all its branches to the centralized database system and has enabled the bank to provide Anywhere Banking facilities to all its valued customer.
- f. Loans were approval based on proprietors or promoters statements rather than verifying and evaluating the possibilities of happening and non happening of their plans and statements.
- g. While evaluating the loan application only the positive aspect or prospective are highlighted and the risk involved (negative aspects) is not adequately addressed.

- h. Addition Loans/Facilities are provided and loans are renewed without evaluating the past performance of the client. Even problematic loans are renewed for the sake of showing them good.
- i. Analysis of the real need of the project and its capability to pay back are not done. Appraisals are based on the directors and promoters rather than the viability of the project.

Sharma (2014), had conducted a research entitled "Implementation of Profit Planning Techniques in Commercial Banks: A Case Study of Investment Bank Limited." The study was mainly concerned with budgeting system of NIBL. The fundamental objective of this study was to assess the budgeting system of NIBL to study the application of comprehensive PPC system in NIBL.

Descriptive as well as analytical research design was adopted in the research. This is a case study research. Here both primary and secondary data were used for this study. The main sources of secondary data were quarterly and annual financial reports, official records, web site, brochures, prospectus and other relevant publications of NIBL, NRB, CBS and relevant publications. The main variables considered were share capital, customer deposit, loan and advances, overdrafts, total resources and deployment, LC, bank guarantees, interest expenses, other expenses, interest income, and other income of NIBL. Various financial and statistical tools were used to analyze the data.

The following major findings were obtained from the study:

- a. The bank is conscious about the human resources due to rapid growth and advent new branches. Develop skills to employees to empower them to provide excellent customer services bank supports to employees further advanced courses. Currently there are 622 employees over the 22 branches of NIBL and bank has aim to rise up to 50 branches within the year 2010 A.D.
- b. NIBL is well performing in the deposit collection sector. Budgeted figure is higher than the actual deposit.
- c. The deployment of Banks available resources at various portfolios among which LDO hold the highest percentage i.e. 54% in average out of total deployment amount through out the five years of study period.
- d. The researcher find that the 100% of achievement of targets in deployment of resources other than LDO i.e. NLDO.

- e. The cash flow analysis of the NIBL shows that there is sufficient fund to repay the short term obligation and it has maintained the liquidity position as per the NRB direction.

Kunwar (2015) had conducted a research entitled "*Profit Planning in Public Utility Enterprises of Nepal: A Case Study of Nepal Electricity Authority.*" This was an analytical and descriptive survey study concentrated on financial accounting practices only and identifying the only short listed areas was concerned with financial accounting only.

Kunwar had used secondary data in his study. To analyze the collected data he has used some financial and statistical tools like mean, standard deviation, correlation, regression, trend line, percentage ratio analysis, C.V.P analysis, flexible budget, productivity measurement and variance analysis to present the data in systematic manner. The main objectives of this study was to evaluate the profit planning of Nepal Electricity Authority and its effectiveness.

Kunwar in his study stated some major findings which are as follows:

- a. Achievement of authority for actual sales was more variable than budgeted sales and actual production is also more variable than planned production.
- b. Overhead were not classified systematically and creates problem to analyze its expenses properly.
- c. NEA has no proper record of manufacturing and it has no proper practice of segregating cost into fixed, variable and semi variable.
- d. NEA is paying a large amount of interest every year and it was suffering from high fixed costs.
- e. NEA was suffering from idle cash and bank balance.
- f. Return on sales ratio, return on net worth, fixed assets turnover ratio, capital turnover ratio, total assets turnover ratio were not perfectly satisfactory though quick ratio seems better.
- g. Goals and objectives were not clear cut of the authority.

Ranabhat (2016) had conducted a research on "*Profit Planning of Nepal Investment Bank Limited.*" The major concern of his study is to find out the profit planning in commercial bank by taking a case study of Nepal Investment Bank. His main objective was to analyze the effectiveness of the profit and cost expenses plan practices of concerned bank. This was an analytical and descriptive survey study

concentrated on financial accounting practices only and identifying the only short listed areas was concerned with financial accounting only.

His major findings are as follows:

- a. Bank is operating 34 branches and planning to increase couple of branches more soon. Bank has planning to open branches in Dhangadi, Birtamod, Mahendranagar and in Baneshor.
- b. 289 staffs were sent for seminars and trainings including 18 staffs trained abroad.
- c. Profit is increasing every year. Interest income is the highest contributor in the total profit. The aggregate contribution of interest income is about 80% for the study years.

Thapa (2016), had conducted a research entitled “*Profit Planning and Control (PPC) of Grand Hotel Pvt. Ltd.*” The main objective of his study is to find out the relationship between sales (income from service and facilities) budget and profit of the company and to identify how far the different functional budgets are being applied as tools for profit planning in the company.

To achieve the targeted objective of the research, Thapa was fully based on secondary data. To analyze the data he has used some financial and statistical tools like mean, standard deviation, correlation, regression, trend line, percentage ratio analysis, C.V.P analysis, flexible budget, productivity measurement and variance analysis to present the data in systematic manner.

Thapa has stated following major findings in his study:

- a. There is a positive correlation between sales target and sales achievement. However sales achievement in respect to sales and yet to be achieved.
- b. Inventory turnover of the company are quite satisfactory. Inventory turnover are found to be fluctuating over the past 6 years.
- c. The gross profit margin shows the decreasing trend which signifies the increasing trend of cost of goods sold.
- d. Percentage of NP on sales has declined for the year 2005/06. The net profit has not been able to go along with sales. Operating expenses are in increasing trend which has affected the profit margin. The operating expenses occupy more than 50% of gross profit.

- e. Percentage of financial expenses on Net profit before provision increased to 72.82%. GHPL has adopted cost plus pricing strategy. The price is found to be cheaper than other hotels.
- f. Sales revenue was found to be very high than BEP which is good for the company. There was very high degree positive correlation between profits, cost and sales i.e. 0.9454.

2.3 Research Gap

There is a significant gap between present research work and the previous research works. There are hundred of researches which are conducted mainly on profit planning and control and management accounting of public enterprises. In most of the researches, profit planning tools are analyzed in one way or the other but their impact are rarely explained. To fill this gap researcher is intended whole heartedly to conduct this research. For this purpose the researcher will examine the current practice of profit planning and control in the Nepal Telecom and Nepal Water Supply Corporation. Probably this might be first research study carried out of the public enterprise on this topic in Nepal. The researcher thinks this research will be also the first in the services sectors companies. To this study will be fruitful to these interested person, Scholar, students, teacher, civil society, stakeholders, businessman and government for academically as well as policy perspectives.

CHAPTER III

RESEARH METHODOLOGY

Research Methodology is the research method used to test the hypothesis in which different process are used to collection, analysis and interpretation of facts and figures. A research methodology helps us to find out accuracy, validity and suitability. Research is a systematic inquiry of any particular topic and methodology is the method of doing research in a well manner. Hence, research methodology is the systematic study of research problem that systematic study of research problem that solve them with some logical evidence.

Research methodology refers to the various sequential steps to be adopted by researcher in studying a problem with certain objectives in view.

3.1 Research Design

“Research design is the plan structure and strategy of investigation convinced so as to obtain answer questions and to control variance. The plan is the overall scheme of program of the research. It includes an outline of what the investigator will do from writing the hypothesis and their operational implication to the financial analysis of data.

The research is a plan to obtain the answer of research questions through analysis of data. The research design of this study is descriptive as this study is an examination and evaluation of budgeting procedures in the process of profit plan of NWSC and NTC. The study is closely related with various functional budgets and other accounting statements as well as the actual results of the budgets. This information is used to analyze and evaluate the profit planning system of NWSC and NTC.

3.2 Population of Sample

The population of this study comprises all public utilities currently operating in the country. The samples consists of two judgementally selected public utility sectors- NWSC and NTC. These units represent the sample for population and are comparable to each other in various aspects.

3.3 Nature and Sources of Data

Although present study is basically conducted on secondary data, primary sources have also been used in few cases. Depending on the nature of data and information, following sources have been utilizing for the research purpose:

1. Primary Sources: Basically direct interview and supplementary Questionnaire have been used.
2. Secondary sources: Secondary sources used in this are listed below:
 - a. Officials records and publication of NWSC and NTC
 - b. Published and Unpublished reports
 - c. Magazines Publication
 - d. Personal dialogues

3.4 Data Collection Procedures

Secondary data have been collected from the annual reports of NWSC and NTC. Similarly other necessary data have been collected from the publication of corporation, Coordination council of Ministry of Finance, Central Bureau of static, National planning commission, Official accounting and planning records of NWSC and NTC and related publication. For the reference of materials, the researcher visited Central Library of T.U. library of Nepal commerce campus and Shankar Dev campus.

3.5 Data Processing

Data obtained from the various sources cannot be directly used in their original form. Further they need to be verified and simplified for the purpose of analysis. Data, information's, figures and facts so obtained need to be checked, rechecked, edited and tabulated for computation.

According to the nature of data, they have been inserted in meaningful tables. Homogenous data have been sorted in one table and similarly various table prepared in understandable manner, odd data excluded from the table. Using financial and statistical tools, data have been analyzed and interpreted.

3.6 Analytical Tools

Financial statement can provide various useful information for the parties directly or indirectly involved in the business. Selection of suitable and proper analysis makes a data effective. The researcher has used two sorts of tools:

- a. Financial tools

- b. Statistical tools
- c. Diagrammatic and Graphical Representation

3.6.1 Financial Tools

Financial tools are those, which are used for the analysis and interpretation of financial data. These tools can be used to get the precise knowledge of the enterprises, which in turn are fruitful in exploring the strengths and weakness of the financial policies and strategies. In order to meet the purpose of the study, Ratio analysis has been used.

3.6.2 Statistical Tools

Various statistical tools can be used to analyze the data available to the researcher. These tools are used in researcher in order to draw the reliable conclusion through the analysis of financial data.

Following tools are used for the purpose

a. Arithmetic Mean: The arithmetic mean of a set of data is found by taking the sum of the data, and then dividing the sum by the total number of values in the set. A mean is commonly referred to as an average. It is Denoted by \bar{X} .

$$\text{We have, } \bar{X} = \frac{\sum a_1 + a_2 + \dots + a_n}{n}$$

b. Coefficient of Variation: The coefficient of variation is a measure of relative dispersion, or relative risk. It represents the degree of risk per unit of return.

$$cv = \frac{\sigma}{\mu}$$

Where, σ = Standard deviation

μ = mean

c. T-Test: T-test tests a hypothesis by comparing a sample mean (\bar{x}) with a hypothesized true mean (μ). The t distributions were discovered by William S. Gosset in 1908. Gosset was a statistician employed by the Guinness brewing company which had stipulated that he not publish under his own name. He

therefore wrote under the pen name "Student." These distributions arise in the following situation.

Suppose we have a simple random sample of size n drawn from a Normal population with mean μ and standard deviation σ . Let \bar{x} denote the sample mean and s , the sample standard deviation. Then the quantity

$$t = \frac{\bar{x} - \mu}{s / \sqrt{n}}$$

d. Co-efficient of Correlation: The coefficient of correlation indicates an *association* between two variables.

$$r_{xy} = \frac{COV(X,Y)}{\sigma_x \times \sigma_y}$$

Where,

r_{xy} is the correlation between X and Y,

COV(X,Y) the covariance between X and Y

σ_x is the standard deviation of X, The value of r_{xy} is always between -1 and 1.

e. Probable error of Correlation Coefficient: It is used to help in the determination of the Karl Pearson's coefficient of correlation 'r'. Due to this 'r' is corrected to a great extent but note that 'r' depends on the random sampling and its conditions. it

is given by P. E. = $0.6745 \left[\frac{1 - r^2}{\sqrt{n}} \right]$

f. Least Square Linear Trend: The method of least squares Linear Trend is assumes that the best-fit curve of a given type is the curve that has the minimal sum of the deviations squared (least square error) from a given set of data.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

Profit planning is a systematic approach for attaining effective managerial performance. Since the profit is a primary measure of business success, any business enterprise therefore needs to increase the chances of making profit. Hence the primary purpose of profit planning is to increase the chances of making profit in the enterprises. Comprehensive profit planning and control or budgeting continues to be of prime importance in virtually all organizations. Planning involves the control and manipulation of relevant variables, controllable and non-controllable and reduces the impact of uncertainty so that the enterprises could be saved from chances of making losses.

The main purpose of this research is to examine the profit planning system in NWSC and NTC. To accomplish this objective, this chapter will analyze the various aspects of profit planning and their accomplishment. Profit planning is a managerial tool, which is applied in every business, endeavours either manufacturing or non-manufacturing enterprises or units. Profit planning is the formal expression of the enterprises plans, goals and objectives stated in financial terms for specific future period of time.

Today business is large and changing public expectations suggest that plans should be formalized within a framework of four major parameters, economic, technological, social and political. Generally two types of profit plans are formulated both strategic and long-range profit plans and tactical short-range profit plans.

This chapter is the central nervous system, which helps to provide conclusions after detailed analysis. This chapter consists of presentation and analysis of profit planning and control of Nepal Water Supply Corporation and Nepal Telecom. The planning part includes Sales, Production, Expenses, cash flow, Profit & Loss A/C, balance sheet and other related figures of the previous year which are presented and analyzed to know the overall economic and financial trend and to estimate the possible future trend of NWSC and NTC. Similarly the control part includes CVP Analysis, Flexible budget and Ratio analysis. For the purpose of the study, the period of years from 2068/69 to 2073/74.

4.1 Profit Planning

4.1.1 Sales Budget

Sales budget is the primary step in developing the overall budget procedures. Sales are the primary source of cash and all other functional budgets are prepared on the basis of sales budget. The capital additions needed, the amount of expenses to be planned, the manpower requirement materials, cash, production volume etc. depends on the volume of sales. The sales plan is that step which opens the door of financial plan. It is an estimation of sales in uncertain period of future. When the actual sale is 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 planned sales.

The sales budget is the foundation for planning in business organization. It is the primary step in developing the overall budget procedure and it is the primary source of cash and all other functional budgets are prepared on the basis of sales budget. The sales plan is the first step, which open the door of all financial plans. The sales plan can be a good plan when an actual sale is not far from the planned sales. For this, sales budget preparation should be done in realistic ground.

If sales budget is not realistic, all other budgets will not realistic. Nepal Water Supply Corporation (NWSC) has a practise of formulation of sales budget for the coming fiscal year. It also forecasts demand for long term, which is known as long-term load forecast. NWSC prepares sales budget on the basis of the nature of consumer. Consumer are domestic, Commercial and non-commercial. The demand forecast for a given category of consumer depends on the growth of user population.

Nepal Water Supply Corporation applies following major methods for the future projection of water demand.

- a. Time trend Extrapolation
- b. Econometric multiple Regression
- c. Field Survey

Planning directorate of NWSC has overall responsibility to prepare sales budget. When the Water supply program is started, then, consumers themselves contact to get

water supply service. There is no competitor of NWSC and it enjoys absolute monopoly in water supply sector.

Sales budget is prepared by NTC according to the nature of consumers. Consumers are categorized like government, business organization residential, special, residential service.

The demand forecast of a given consumer category will depend on the growth rates of the numbers of connection, the average telephone use per connection and the user population. Therefore the evolution of each of these variables needs to be analyzed separately. In particular, connection policy is a factor that must be carefully studied. In view of their low levels of the income in some areas, high connection charges could act as a significant barrier and vice versa.

Following Table no. 4.1 shows the picture of sales trends from F/Y 2068/69 to 2073/74.

Table No. 4.1
Budget and Actual Sales of NWSC and NTC

F/Y	NWSC			NTC		
	Budget ('000)	Actual ('000)	Ach (%)	Budget ('000)	Actual ('000)	Ach (%)
2068/69	424.61	421.61	99.29	5550.40	5487.18	98.86
2069/70	438.02	462.59	105.61	5724.63	6159.02	107.59
2070/71	511.95	513.33	100.27	6558.26	7208.08	109.91
2071/72	539.95	530.81	98.31	7865.30	8312.22	105.68
2072/73	706.10	662.41	93.81	8358.65	8584.14	102.70
2073/74	736.24	683.85	92.88	9547.82	10413.65	109.07
Total	3356.87	3274.6	98.36	43605.06	46164.29	105.63
Mean	559.48	545.77		7267.51	7694.05	
S.D	132.91	106.10		1586.17	1790.72	
C.V	23.76	19.44		21.83	23.27	
r	0.9955			0.9889		
P.E(r)	0.0025			0.0061		
Y= a + bX	545.77 + 42.99X			7694.05 + 740.49X		
Combined S.D	4.43					
Calculated /t/	0.95					

Source: Annual Reports of NWSC and NTC from the F/Y 2068-69 to 2073/74.

Actual sales achievement of NWSC is highly consistent with budgeted sales. The sales revenue percentage, which is increased in FY 2069/70, indicates the unexpected increment in traffic rate. Similarly sales amount of NTC are also highly consistent in the study period except in F/Y 2073/74. The average sales achievement of NTC 105.63% is more than average sales achievement of NWSC 98.36%.

After we analyze the budgeted and actual sales figure of each year, we can say that targets are set on realistic basis. It can say that target is based on historical data and previous year's sales performance.

The budgeted and actual mean, S.D., C.V., of NWSC is Rs. 559.48 and Rs. 545.77, 132.91 and 106.10, 23.76% and 19.44% respectively which shoes actual sales is less variable than the budgeted sales because C.V. of actual sales 19.44% is less than C.V. of budgeted 23.76%. Similarly the budgeted and actual mean, S.D., C.V. of NTC is Rs.7267.51 and Rs.7694.05, 1586.17 and 1790.72, 21.83% and 23.27% respectively which shows actual sales are more stable than the budgeted sales as C.V. of budgeted sales 23.27% is higher than the of C.V. of actual sales 21.83%.

The series for which greater C.V is said to be more variable or conversely less consistent and a distribution with smaller C.V. is said to be less variable, more consistent, more uniform, more stable or less homogenous. Therefore the C.V of actual sales achievement of NWSC 19.44% is less than C.V of actual sales achievement of NTC 23.27% shows that NTC has less uniformity between budgeted sales and actual sales.

Correlation of Coefficient can be used to analyze the relationship between budgeted sales and actual sales. The sales achievement should increase as the budget increase and vice versa. With help o Karl Pearson's coefficient of correlation (r) has determine the correlation between budgeted and actual sales. But calculation r , we can examine whether or not the actual sales will be changed in the same direction of the change in budgeted sales.

For the calculation of ' r ' budgeted figures denoted by " X " are assumed to be independent variables and actual figures denoted by " Y " are assumed to be dependent variable. The achievement will be large if the target sales are large and vice versa. And Significance of " r " is tested with probable error of " r ".

Correlation of co-efficient appeared greater than six times the probable error in both NWSC and NTC. i.e. NWSC ($0.9955 > 6 \times 0.0025$) and (for NTC $0.9889 > 6 \times 0.0061$). They have been able to verify that 'r' of both enterprises is positive as significant level. This positive correlation is not only pure chances. The Test of significant of 'r' shows that there is significant positive relationship between the target and achievements.

Therefore it can be said that there is perfect correlation between budgeted sales and actual sales. The actual sales will change in the same direction as the budgeted sales will, In short, Correlation tests make the concept clear that sales budget is prepare well.

The statistical tools, least square method can be used to analyze the trend of actual sales and to estimate the possible future sales for a given time. Time elements is an important factor, which determinate the future sales. This time series relationship can be expressed in term of straight line trend by least squire method.

4.1.2 Fitting Straight Line Trend by Least Squire Method

Here Fiscal Year 2070/71 is assumed as base year so the value of X in Fiscal Year 2070/71 is zero. So we have the negative for the year before 62/63 and positive for the year after 2070/71.

To fit the straight-line trend, the time factor is considered as independent factor and sales as dependent factor. Then the straight-line trend of actual sales(Y) upon times in expressed by:

$$Y = a + bX; \text{ where } X \text{ is time}$$

The trend line of NWSC and NTC is Rs. $545.77 + 42.99X$ and Rs. $7694.05 + 740.49X$ respectively shows the positive figures of sales indicating the trend of past years continue in future in both the enterprises. Given the value of X (i.e. relevant year 2070/71) value of Y (i.e. expected sales achievement) can be estimated.

The calculated value of t (0.95) remained less than tabulated value (2.306_ at 5% level of significance level at 8 no. degree of freedom. Hence null hypothesis has been accepted i.e. the mean of actual sales achievement of NWSC and NTC doesn't differ

significantly. It can be concluded that sales achievement of NWSC and NTC for past six years are same.

4.1.3 Production Plan

NWSC:

A production budget is prepared in relation to sales budget. For the purpose of the formation of profit plan, the sales requirement is to be translated in production plan. In the case of manufacturing concern, the sales plan compulsorily is to be translated in production plan. But in respect of utility concern, the production plan goes in the long run and according the availability of utility it seeks to its customers.

In case of NWSC we have given the name of production budget, it is the water collection and purchase budget of NWSC. As there is NWSC prepares its production budget for a fiscal year in short term and both Water production and collection are the part of production budget. Production directorate in coordination with planning directorate prepares production budget of NWSC. In respect of the production, existing projects and projects near about of completion are adjusted and government policy is also considered by NWSC while preparing its production budget.

NTC:

In the case of NTC, production budget is a name given to the telephone point generation budget. Due to high demand, there is no any problem of selling the telephone point. So in such case, practices regarding closing inventory and looking inventory are not used in NTC. Basically NTC has practice to make strategic long-range production plan and make the estimation of load forecast. Production budget is prepared by planning directorate.

Production plan = Production plan is calculated as follows:

Planned sales + Required Closing Inventory – Opening Inventory

Table no. 4.2 shows production target and achievement of both NWSC and NTC form FY 2068/69 to 2073/74.

Table No. 4.2
Budgeted and Actual Production in Unit of NWSC and NTC

F/Y	NWSC			NTC		
	Budget ('000)	Actual ('000)	Ach(%)	Budget ('000)	Actual ('000)	Ach (%)
2068/69	83585.00	74095.00	88.65	44648.00	40647.00	91.04
2069/70	102565.00	88695.00	86.48	71915.00	52926.00	73.60
2070/71	105850.00	90155.00	85.17	78567.00	67586.00	86.02
2071/72	107310.00	98185.00	91.50	86357.00	83567.00	96.77
2072/73	110550.00	105680.00	95.59	93562.00	89659.00	95.83
2073/74	145630.00	111586.00	76.62	101258.00	99587.00	98.35
Total	655490.00	568396.00	87.33	476307.00	433972.00	90.27
Mean	109248.33	94732.67		79384.50	72328.67	
S.D	20218.31	13409.84		19955.72	22681.89	
C.V	18.51	14.16		25.14	31.36	
r	0.8898			0.9587		
P.E(r)	0.0573			0.0223		
Y= a + bX	94732.67+ 5516.90X			72328.67+ 9509.54X		
Combined S.D	8.02					
Calculated /t/	0.21					

Source: Annual Report of NWSC and NTC.

The table 4.2 shows actual production of NWSC is below than budgeted production in all the mentioned Fiscal year. The achievement percentage indicates that it is very satisfactory whereas NTC is going on achieving its budgeted production but it is in increasing pattern over the years under study. The average production achievement of NTC (90.27) is higher than that of NWSC (87.33).

The budgeted and actual Mean, S.D., C.V. of NWSC is 109248.33 and 94732.67; 20218.31 and 13409.84; 18.51% and 14.16%. This shows the actual production is less variable than the budgeted production. As greater, C.V. in budgeted production, we can say the budgeted production is of the nature of more variability than actual production.

The budgeted and actual mean, S.D., C.V. of NTC is 79384.50 and 72328.67; 19955.72 and 22681.89; 25.14% and 31.36%. This shows that there is very more stability in actual production as C.V. of actual production is higher than the budgeted production.

The value of 'r' of NWSC and NTC is 0.8898 and 0.9587 respectively shows there is perfectly positive correlation between budgeted production and actual production of both enterprises. And probable error's value of NWSC 0.0573 respectively proves the significance of value of 'r' as $(0.8898 > 6 \times 0.0573)$. Correlation coefficient of NTC (0.0223) comes less than six time the probable error i.e. $(0.9587 < 6 \times 0.0223)$. It signifies that a positive relation occurs between budgeted and actual but the degree of relation is not much significant.

For fitting the regression line we have assumed actual production achievement as dependent upon the budgeted production. The regression lines of NWSC and NTC $94732.67 + 5516.90X$ and $72328.67 + 9509.54X$ respectively shows positive relation between actual production and budgeted production.

As a straight line trend of NWSC is $94732.67 + 5516.90X$ and NTC $72328.67 + 9509.54X$ both shows that the trend of past year increment in production of both enterprises will continue in future also.

Since the calculated value of 't' (0.21) is lower than the tabulated value (2.306), the null hypothesis is accepted i.e. mean of the budgeted and actual production of NWSC and NTC not differs significantly.

4.1.4 Expenses Planning

Planning for expenses is necessary to maintain expense at reasonable levels to support the planned programs of the enterprise. Expenses planning and control may cause either decrease or increase in expenditure. Expense planning and control should focus on relationship between expenditures and the benefits derived from those expenditures. Planning of expenses is essential in the process of profit planning. The expenses planning focus on better utilization of limited resources.

NWSC prepares overhead budget. It includes the employee cost, power and fuel cost, chemical cost, Repair and maintenance and administrative cost. The following expenditures are included by this budget.

- Employee Expenses: Employees' salaries and facilities, Employee welfare expenses, Pension and gratuity to employees
- Power and Fuel: Fuel for vehicles, Fuel for other use, Power
- Chemical: Chemical (with lab)
- Repair and Maintenance: Repairs and maintenance of Building, Repairs and maintenance of vehicle, equipment and furniture, Repairs and maintenance of other system.
- Administrative Expenses: Audit fee and expenses, Printing and stationary, Advertisement, Newspapers, Services, Rent, Contingency expenses, Tanker operation expenses etc.

By the analysis of the NWSC's overhead budget, It is found that it has not the practice of preparing overhead budget in a classified and systemic way. it has accumulated all its expenditures in operation and maintenance budget and it has created difficulty to analyze its overhead budget. Expenditure hasn't been segregated like manufacturing overhead, administrative overhead and selling and distribution overhead.

NTC also prepares overhead budget. It includes the employee cost, operation and maintenance cost, administrative cost, interest and depreciation. There is a practice of preparing short-term administrative budget detailed by items, by region, by exchange for coming fiscal year.

The following table shows budgeted and actual expenses trend of NTC from F/Y 2068/69 to 2073/74.

Table No. 4.3

Budgeted and Actual Expenses of NTC for F/Y 2068/69 to 2073/74

Cost Topic	Total	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74	Mean
Employee Cost								
Budgeted	6787.38	866.13	966.89	1024.52	1153.68	1325.64	1450.52	
%		22.74	23.43	22.99	24.36	26.10	26.85	24.41
Actual	5407.27	773.63	687.62	717.24	927.14	1136.82	1164.82	
%		27.48	25.23	25.35	28.24	31.32	29.12	27.79
Operational & Maintenance Cost								
Budgeted	4415.08	557.55	626.2	756.24	790.25	824.3	860.54	
%		14.64	15.18	16.97	16.69	16.23	15.93	15.94
Actual	2949.14	453.83	493.93	330.98	463.12	552.16	655.12	
%		16.12	18.12	11.70	14.10	15.21	16.38	15.27
Administration Cost								
Budgeted	6912.3	857.27	1058.35	1152.24	1231.25	1270.52	1342.67	
%		22.51	25.65	25.86	26.00	25.02	24.85	24.98
Actual	4496.61	577.4	611.5	752.63	798.52	835.24	921.32	
%		20.51	22.43	26.60	24.32	23.01	23.03	23.32
Interest								
Budgeted	1069.25	296.46	189.26	170.25	157.35	140.25	115.68	
%		7.78	4.59	3.82	3.32	2.76	2.14	4.07
Actual	626.13	211.05	106.79	97.52	89.54	57.25	63.98	
%		7.50	3.92	3.45	2.73	1.58	1.60	3.46
Depreciation								
Budgeted	8421.94	1230.75	1285.3	1352.65	1402.53	1518.05	1632.66	
%		32.32	31.15	30.36	29.62	29.89	30.22	30.59
Actual	5805.77	799.5	825.95	931.26	1005.25	1048.63	1195.18	
%		28.40	30.30	32.91	30.61	28.89	29.88	30.16
Total								
Budgeted		3808.16	4126	4455.9	4735.06	5078.76	5402.07	
Actual		2815.41	2725.79	2829.63	3283.57	3630.1	4000.42	

Source: Annual Report of NWSC and NTC.

From the table 4.3, we can view the clear picture of actual expenses F/Y 2068/69 to 2073/74. During study period there is increasing trend for operation of maintenance cost, for administration cost and for depreciation but interest has decreasing trend. While employee cost is having highly increasing trend. Overall, there is increasing trend over the past fiscal year except in F/Y 2069/70. Depreciation is high as it has large volume of fixed depreciable assets. Similarly employee cost is lower than depreciation and higher than other costs. Interest expense is lowest.

By observing the mean of individual expense of NTC depreciation (30.16)% has remained dominant in study period, which is non-cash expenditure, it might be kept

aside for further investment by firm. Interest expenses averaged to 3.46% shows the lowest, which is good for enterprises because it is outflow and decreasing interest over F/Y, contribute to the profit also. Mean of budgeted expenses and actual expenses of each item for research period are almost same. Actual mean of employee cost (27.79%) and O&M cost (15.27%) is slightly more than budgeted employee cost (24.41%) and (15.94%) respectively. Whereas budgeted mean of Administration cost (24.98%) and Depreciation (30.59%) is more than actual mean of Administration cost (23.32%) and Depreciation (30.16%) respectively. Actual mean of interest (3.46%) is almost same as budgeted mean (4.07%).

Table No. 4.4

Budgeted and Actual Expenses of NWSC for F/Y 2068/69 to 2073/74

Cost Topic	Total	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74	Mean
Employee Cost								
Budgeted	1339.86	212.60	212.86	215.38	216.46	228.92	253.65	
%		51.70	51.95	46.97	46.50	45.80	46.51	48.24
Actual	1338.26	202.24	208.84	207.57	208.35	245.75	265.52	
%		49.13	46.85	45.97	45.04	49.11	49.36	47.58
Power and Fuel								
Budgeted	631.96	80.98	97.62	106.13	106.08	117.61	123.54	
%		19.69	23.82	23.14	22.79	23.53	22.65	22.61
Actual	623.46	78.93	98.20	102.93	104.04	116.83	122.53	
%		19.18	22.03	22.80	22.49	23.35	22.78	22.10
Chemical								
Budgeted	70.85	7.50	13.73	11.51	11.43	12.84	13.85	
%		1.82	3.35	2.51	2.45	2.57	2.54	2.54
Actual	51.07	6.72	8.11	10.14	10.42	7.61	8.08	
%		1.63	1.82	2.24	2.25	1.52	1.50	1.83
Repair and maintenance								
Budgeted	502.20	57.70	54.32	71.43	98.41	104.49	115.85	
%		14.03	13.26	15.58	21.14	20.91	21.24	17.69
Actual	574.97	93.47	97.96	86.62	94.34	98.06	104.52	
%		22.71	21.97	19.18	20.39	19.60	19.43	20.55
Other Administrative Expenses								
Budgeted	245.34	52.42	31.23	54.11	33.14	35.92	38.52	
%		12.75	7.62	11.80	7.12	7.19	7.06	8.92
Actual	222.10	30.28	32.69	44.26	45.45	32.17	37.26	
%		7.36	7.33	9.80	9.83	6.43	6.93	7.95
Total								
Budgeted		411.20	409.77	458.56	465.50	499.77	545.41	
Actual		411.63	445.80	451.51	462.60	500.42	537.91	

Source: Annual Report of NWSC

The table 4.4 shows actual expenses of NWSC shows overall increasing trend over research period. Employees cost, power and fuel, chemical, administrative is in increasing trend Repair and Maintenance are in decreasing trend, while administrative expense, interest & financial cost are in fluctuating trend.

Employee cost is highest and second highest of power and fuel among all expenditure as NWSC has to water production. Administration expenses are lowest. By observing individual means of expenses, Employee cost (47.58%) and power expenses (22.10%) remained dominant but the percentage reduction of interest over the years is a good sign for profit increment.

The mean of individual expenses of the budgeted and actual expenses of NWSC is almost same; the difference is negligible i.e. actual expenses varies -1 to +1 in respect to budgeted expenses except Administrative expenses. Actual employee cost, Adm. Cost, Interest & Financial expenses Power Rare slightly below than budgeted while repair and maintenance slightly more than budgeted expenses.

Therefore it is concluded that both NWSC and NTC are perfect on budgeting of expenses as each individual mean budgeted and actual expenses are not much deviated.

4.1.5 Capital Expenditure Plan

A capital expenditure is the use of funds to obtain operational assets that will help to earn future revenues or to reduce future costs. Capital expenditure includes such fixed assets as property, plant, equipment, major innovations and patents. Capital expenditure projects involve large amount of cash, other resources and debt that are tied up for relatively long periods of time. The capital expenditures budget enables executive management to plan the amount of resources that should be invested in capital additions to satisfy customer demands, meet competitive demands and ensure growth.

NWSC prepares short range as well as long-range capital expenditure budget. Short term capital budget is prepared for one year and published by NWSC. Long term capital expenditure plan is prepared but it is not published. It includes purchase of land, plant and machinery, and construction of building and project offices. For evaluation purpose generally traditional approaches are used. For instance payback

period and average rate of return techniques were being used in previous period to make major capital decision.

General Manager of the NTC prepares capital expenditure plan. Planning managers evaluate the plan with the help of account department & finance department. NTC present Value and Internal Rate of Return etc methods for screening proposals. Capital expenditure budget includes purchase of land, building, plant & machinery, heating & lighting, Furniture, office equipment vehicles and adhoc basis.

NWSC: others (Miscellaneous assets, Feasibility study + consultancy fee capital) + Intuitional development project)

NTC: P & M (Equipment, Tools, Spare part and purchase & installation)

NTC: Others (Heating & Lighting, Office equipment, vehicles)

Table No. 4.5
Budgeted and Actual Capital Expenditure of FY 2073/74

(Rs. In million)

Particulars	NWSC			NTC		
	Budget	Actual	Ach.(%)	Budget	Actual	Ach.(%)
Land	35.26	25.35	71.89	15.24	8.36	54.86
Building	145.57	81.92	56.28	142.35	66.46	46.69
Plant & Machinery	110.82	92.30	83.29	2564.52	2015.86	78.61
Furniture and Fixtures	4.45	3.52	79.10	11.10	7.24	65.23
Other	468.95	420.09	89.58	248.59	145.72	58.62
Total	765.05	623.18	63.36	2981.80	2243.64	50.67

Source: Annual Report of NTC and NWSC

The table 4.5 shows the short term budgeted and actual capital expenditure of NWSC and NTC. As achievement percentage varies from 56.28% to 89.58% of NWSC and 46.69% to 78.61% of NTC reflect the improper use of capital budget.

In case of NWSC except other expenses, the actual expenditure are less than budgeted and in case of NTC except Plant and Machinery remaining actual expenditure are less than the budgeted expenses.

4.1.6 Analysis of Profit and Loss

Profit and loss account shows the final conclusion of operation of an accounting year. Profit is the major element of each and every organization for its survival future development, fulfillment of social expectations and measurement efficiencies.

NTC prepares a projected P/L A/C in advance. At the end of fiscal year, actual P/L A/C is prepared by the accounting dept. of NTC to know about the profit or loss of the organization. The budgeted and actual P/L A/C of NTC for the F/Y 2073/74 is as follows:

Table No. 4.6
Budgeted and Actual Profit and Loss of NTC for FY 2073/74

(Rs. In million)

Particulars	Budgeted	Actual	Under/Over
Incomes:			
Operating Incomes (gross)	8573.65	10413.65	1840
Non-Operating Incomes	456.87	645.26	188.39
Total Income [A]	9030.52	11058.91	2028.39
Expenditures:			
Employee Cost	1450.52	1164.82	285.7
Operational & Maintenance Cost	860.54	655.12	205.42
Administration Cost	1342.67	921.32	421.35
Interest	115.68	63.98	51.7
Depreciation	1632.66	1195.18	437.48
Bonus	236.75	195.35	41.4
Incentive Package	152.34	126.69	25.65
Others	1425.84	1735.37	-309.53
Total Expenditure [B]	7217	4215.19	3001.81
Income Before Tax (A-B)	1813.52	6843.72	5030.20
Less: Income Tax	505.36	1907.08	1401.72
Income after Tax	1308.16	4936.64	3628.48
Income tax Adjustment	0.00	-344.61	-344.61
Prior Year adjustment (Inc./exp.)	0.00	1.29	1.29
Profit available for Distribution	1308.16	4593.32	3285.16
Dividend	196.22	689	492.78
Net profit after Dividend	1111.94	3904.32	2792.38

Source: Annual Report of NTC.

Table No. 4.7
Actual Profit and Loss of NWSC for FY 2073/74

(Rs. In million)

Particulars	Amount
Income:	
Sales	662.41
Other income	64.068
Total income [A]	723.478
Expenditure:	
Production	167.841
Distribution	105.963
Quality control	8.93
Electro- mechanical	12.461
Sewerage	10.344
Consumer's account	45.999
Administrative expenses	149.138
Provision for D/D	23.763
Right –up (stock)	0.0978
Provision for gratuity fund	-
Total Expenditures [B]	524.537
Operating surplus/deficit [A-B]	201.941
Interest payable	-61.756
Depreciation	-152.48
Depreciation transfer from capital reserved	47.715
Net loss	-35.422

Source: Annual Report of NWSC and NWSC, F/Y 2073/74

From the table 4.7, we can say that actual profit of NTC is more than budgeted profit, which means that the corporation has achieved more profit than the estimated by i) increasing the total income and ii) decreasing the total expenditure than the budgeted. This implies that the budgeted figure is vital for the actual performance. Or it provides the key points to improve the efficiency of management.

The analysis of Actual profit & loss A/C and actual profit & loss A/C of NWSC for F/Y 2070/71 shows that loss is incurred by Rs. 35.22 million. Even the profit before tax was Rs. 201.94 million.

4.1.7 Future Net Profit Patterns

The comparative profit/loss pattern of NWSC and NTC for last five F/Y (2068/69 to 2073/74) and time series analysis for next five F/Y has been presented following table.

Table No. 4.8
Net Profit Pattern of NWSC and NTC

(Rs. In million)

NWSC				NTC			
F/Y	Loss	F/Y	Forecast Overhead	F/Y	Profit	F/Y	Forecast Overhead
2068/69	-30.67	2074/75	-29.61	2068/69	2045.47	2074/75	5079.37
2069/70	-47.73	2075/76	-29.03	2069/70	2570.27	2075/76	5750.29
2070/71	-4.57	2076/77	-28.45	2070/71	2588.22	2076/77	6421.21
2071/72	-42.91	2077/78	-27.87	2071/72	2048.14	2077/78	7092.13
2072/73	-35.42	2078/79	-27.29	2072/73	3230.47	2078/79	7763.05
2073/74	-28.53	2079/80	-26.71	2073/74	3904.31	2079/80	8433.97
	-189.83				16386.88		
Y = bX + a	.58X - 31.93			Y = a + bX	2395.69 + 670.92X		

Source: Annual Report of NWSC and NWSC

Table no. 4.8 shows that a i.e. y-intercept and b i.e. slope of trend line of net profit in NWSC was Rs. -31.93 and (058) million; and in NTC was Rs. 2395.69 and Rs. 670.92 million respectively. Therefore,

Trend equation of net profit:

- a. For NWSC $-31.93 + .58X$
- b. For NTC $2395.69 + 670.92X$

On the basis of trend equation obtained above the forecasted net profit for coming five years of NWSC would be in decreasing by Rs.58 million every year. As per NTC trend equation forecasted net profit for coming five years would be in increasing trend.

Regarding NWSC the operating profit that is in minus figure is because of high administrative, repairs and maintenance and staff cost. These costs are to be controlled and the burden of huge amount of interest is to be reduced by following alternative measures.

4.1.8 Analysis of Balance Sheet

Balance sheet is detail picture of a firm. It represents the firm's economic resources of obligations. Balance sheets communicate information about assets and liabilities of firm and overall all financial condition of a business at particular moment of time. It

also indicates financial strength and weakness of the firm. It is prepared at the end of accounting period.

Total Fixed assets of NWSC include fixed asset, capital-work in progress and investment. Whereas total fixed assets of NTC includes land, building, plant and machinery, heating & lighting, furniture, office equipment, vehicle, investment in Govt. securities, and Investment in intelsat.

Total current assets of NWSC include inventories, Sundry debtors & other receivable, Cash & bank balances, prepaid and Loans & Deposits. Whereas total current assets of NTC includes Stores & Spares Sundry debtors, interest accrued on investment, unexpired L/C & advances, Advances & Loans to employees, Branch Account, Bank A/C, Cash A/C.

Now worth of NTC represent equally capital and Reserves surplus (i.e. Capital Reserve, Retained earning, sinking fund for repayment of loans), whereas Net worth of NWSC represent share capital, Reserves and Accumulated profits. Current liabilities of NWSC include sundry creditors and other payables, whereas current liabilities of NWSC include sundry creditors, interest accrued & dues, other liabilities, Deposits & Advances, Proposed dividend.

The actual balance sheet of NWSC and NTC for F/Y 2073/74 is in presented in Table no. 4.9.

Table No. 4.9
Actual Balance Sheet of NWSC and NTC

(Rs. In million)

Particulars	NWSC	NTC
Total Fixed Asset	3233.00	16688.44
Total Current Asset	1481.59	22526.52
Differed Expenses	-	136.45
Total Asset	4714.59	39351.41
Total Equity & Reserve	3421.60	23686.03
Long Term Debt	992.42	
Current Liabilities and Provision	300.56	15665.38
Total Equity & Liabilities	4714.59	39351.41

Source: Annual Report of NWSC and NTC, F/Y 2073/74

Table 4.9 shows the assets and liability position of NWSC and NTC. NTC has about 9 times greater capital structure than that of NWSC. NTC has not used long-term debt in its capital whereas NWSC has used long-term debt.

Table No. 4.10

Actual Summarized Balance Sheet of NWSC and NTC for 2068/69 to 2073/74

(Rs. In million)

Fiscal Year	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74
Total Fixed Asset						
NWSC	2063.89	2109.61	2768.87	2756.57	2909.31	3232.99
NTC	9263.79	10033.00	11425.25	13258.71	15023.57	16688.44
Total Current Asset						
NWSC	982.97	1077.91	1061.31	1141.26	1271.92	1481.59
NTC	12320.60	15403.34	17229.87	17936.57	21167.49	22526.52
Total Differed Expenses						
NWSC	-	-	-	-	-	-
NTC	180.48	166.16	168.36	284.42	142.19	136.45
Total Asset						
NWSC	3046.86	3187.51	3830.18	3897.83	4181.23	4714.58
NTC	21764.87	25602.50	28823.48	31479.70	36333.25	39351.41
Total Equity & Reserve						
NWSC	700.79	634.30	1150.70	1011.38	1527.24	3421.60
NTC	14954.42	17525.13	18452.35	19526.33	21586.34	23686.03
Long Term Debt						
NWSC	1820.30	1894.49	1943.83	2041.18	1738.26	992.42
NTC	952.35	299.90	233.78	11.25	24.24	
Current Liabilities and Provision						
NWSC	525.77	658.74	735.66	845.28	915.73	300.56
NTC	5858.10	7777.47	10137.35	11942.12	14722.67	15665.38
Equity & Liabilities						
NWSC	3046.86	3187.52	3830.18	3897.83	4181.23	4714.58
NTC	21764.87	25602.50	28823.48	31479.70	36333.25	39351.41

Source: Annual Report of NTC and NWSC.

The summarized balance sheet of last 6 years of NWSC and NTC is constituted in Table no. 4.9.

The liability side at balance sheet of study period of NWSC shows higher percentage of long term liabilities, upon which NWSC has been paying a huge amount of interest

each year. Similarly, the asset shows the remarkable amount of accounts receivable and period, advances, loans and deposit. Instead of decreasing this account, it is being increased year by year.

The liability side of balance sheet of NTC from F/Y 2068/69 to 2073/74 shows Capital Reserve and Retained earning with increasing trend and in Assets side Bank and Cash balance having increasing trend are huge proportion, which are kept ideally which is not a good sign. This shows that NTC's financial structure is well structured.

4.1.9 Cash Plan and Cash Flow Statement

A budget shows the planned cash inflows, outflows and ending position by interim periods for a specific time span. Planning cash inflows and outflows gives the planned beginning and ending cash position for the budget period. Planning the cash inflows and outflows will indicate (1) the need for financing probable cash deficits or (2) the need for investment planning to put excess cash to profitable use. The cash budget is directly related to other functional plans, such as the sales plan, accounts receivable and the expenses budgets and the capital expenditures budget. A PPC program establishes the foundation for a realistic cash budget.

The cash flow statement consists of cash inflows and cash outflows during the year. it omits the effect of non-cash activities like depreciation. This statement provides the necessary data of each and every cash flow activities and shows the closing balance of cash at the end of each year. The budgeted and actual cash flow statement of NTC from the F/Y 2070/71 is presented in the following table.

Actual Cash Flow Statement for F/Y 2070/71 of NTC is shown in Table no. 24 while Table no. 4.10 shows actual cash flow statement of NWSC for F/Y 2068/69 to 2073/74.

Table No. 4.11**Actual Cash Flow Statement of NTC for F/Y 2073/74**

(Rs. In million)

Particulars	FY 2072/73	FY 2073/74
(i) Cash Flow From Operating Activities		
Net Profit before Tax	6,843.73	4,921.53
Adjustment	-	-
Depreciation	1,196.14	1,050.49
Differed expenses	40.03	40.82
Foreign Exchange Gain/ Loss	(280.01)	251.12
Provision for staff Bonus & Incentive	322.04	281.71
Provision for Pension & Gratuity	241.39	312.61
Interest on loan	1.11	0.70
Fixed Assets Written off -	-	1.22
Income from Investment & Bank Deposit	(596.84)	(463.83)
Expenses on lost of goods -	8.53	-
Royalty	591.81	491.30
Provision for earned leave	65.98	24.24
Operating Profit before Working Capital Changes	8,433.91	6,911.91
Adjustment for Working Capital Changes	-	-
Increase in account receivable	(273.55)	(157.00)
Increase in Stock	(34.26)	(54.61)
Decrease in Interest accrued	2.46	5.46
Increase in Advance-Tax	(1,684.60)	(1,602.05)
Decrease in Advance	382.51	221.48
Branch Account (adjust)	2.80	(4.04)
Increase in Payable	618.50	226.45
Payment of interest/Adjustment	(2.34)	0.47
Payment of Royalty	(370.64)	(450.00)
Payment of Earned leave	(22.01)	(21.02)
Payment of Pension	(30.05)	(23.61)
Gratuity Received -	0.01	-
Payment of Bonus & Incentive	(301.64)	(384.04)

Last year Adjustment	1.27	158.09
Working Capital Changes	(1,711.54)	(2,084.41)
Net Cash flow from Operating Activities (A)	6,722.36	4,827.50
(ii) Cash Flow From Investing Activities	-	-
Purchase of Fixed Assets	(2,243.65)	(1,997.75)
Decrease in cwip	15.79	(1,075.34)
Increase in deffered expenses	(34.29)	(42.10)
Increase in investment	(818.21)	55.82
Income from Investment & Bank Deposit	596.84	463.83
Net Cash Flow from Investing Activities (B)	(2,483.52)	(2,595.53)
(iii) Cash Flow From Financing Activities	-	-
Receipt in Long term Debt -	-	24.24
Payment of long term debt	(24.24)	(11.25)
Payment of dividend	(433.51)	(300.00)
Repayment of retained earnings to Nepal Govt.	(1,611.65)	(2,900.00)
Capital Reserve adjusted to retained earnings-	(2.32)	-
Net Cash Flow From Financing Activities (C)	(2,071.72)	(3,187.01)
Net Increase in Cash (A+B+C)	2,167.12	(955.04)
Cash at beginning	9,574.50	10,780.67
Foreign Exchange Gain/(Loss)	280.01	(251.12)
Cash at the end	12,021.62	9,574.50

Source: Annual Report of Nepal Telecom

In the case of NTC, The table 4.11 shows net cash inflows from operating activities are more than previous FY amount. An actual cash outflow from investing activities has increase than previous FY amount. Actual cash outflow from financing activities has increased than the previous FY amount..

Table No. 4.12**Actual Cash Flow Statement of NWSC for F/Y 2073/74**

(Rs. In million)

Particulars	FY 2072/73	FY 2073/74
(i) Cash Flow From Operating Activities		
Net Profit(loss) from P/L Account	-42.91	-37.15
Provision for depreciation	151.72	152.52
Provision for interest	56.19	61.76
Provision for retirement fund	17.02	31.81
Provision for doubtful debt	11.05	13.13
Life insurance fund	4.63	4.10
Depreciation transfer	-47.72	-47.74
Capital release	0.78	0.10
Increase on receivable	-112.18	-131.32
Deposit (increase) /decrease	-2.61	-0.13
Capital (increase) /decrease	-10.56	1.51
Current liabilities increase/(decrease)	17.78	5.50
Payment of Gratuity	-8.17	-6.62
Payment of life insurance	-2.70	-1.52
Net Cash flow from Operating Activities (A)	32.32	120.23
(ii) Cash Flow From Investing Activities		
Increase in fixed assets	-144.53	-140.84
Net Cash Flow from Investing Activities (B)	-144.53	-140.84
(iiI) Cash Flow From Financing Activities		
Increase in share capital (JICA Grant)	-	0.11
Loan from Nepal Government	121.50	86.60
Increased in fixed capital	1.55	7.98
Net Cash Flow From Financing Activities (C)	123.06	94.69
Total cash flow increase (decrease)(A+B+C)	10.85	74.08
Opening cash balance	226.25	237.08
Closing cash balance	237.09	311.16

Source: Annual Report of NWSC.

In case of NWSC, actual cash flow is prepared under indirect method. Net cash inflows from operating activities in F/Y 2073/74 are more than from F/Y 2072/73. Net cash outflow flows from investing activities in F/Y 2073/74 are less than from F/Y 2072/73. Net cash flow from financing activities are also less in F/Y 2073/74 than

F/Y 2072/73. Overall cash at the end of year is similarly more in F/Y 2073/74 than that of F/Y 2072/73.

4.2 Controlling Part

4.2.1 Performance Evaluation

Performance reporting for internal management uses is an important part of a comprehensive profit planning and control system. All companies regardless of their size have reporting requirements to show their overall performance.

Performance evaluation is an important phase of control process. Nepalese public enterprises have not a systematic and in depth approach to performance evaluation. NWSC and NTC do not care of their performance. Various techniques and criteria can be used to evaluate performance of business enterprises.

This research report uses following evaluation techniques to measure the performances of NWSC and NTC.

- i) CVP analysis.
- ii) Flexible budget.
- iii) Financial Ratios.

4.2.2 Cost Volume Profit Analysis

CVP is an analytical technique for studying the relationship between volume, cost, price and profit. It is a device used to determine the usefulness of the profit planning process of the enterprise. It helps to determine the minimum sales volume to eliminate losses and the sales volume at which the profit goal of the enterprise will be achieved. CVP analysis indicates the level where costs & revenue are in equilibrium. This tool is vital in profit planning because without the use of BEP, it is difficult to determine sales level for certain level of profit.

The CVP analysis of NTC is based on the following assumptions:

- a. Based on P/L A/C of different Fiscal years.
- b. Actual base is selected in terms of sales revenue.
- c. Selling price, variable cost of volume ratio, and fixed cost per year are assumed to be remaining constant.
- d. Costs are classified as fixed & variable as presented in the following table.
- e. Miscellaneous income i.e. non-operating income is excluded from cost volume profit relationship.

Table No. 4.13
Cost Classification and Actual Sales and BEP Analysis of NTC
(Rs. In Million)

Particulars	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74
Variable Cost :						
Operating and Maintenance	453.83	493.93	330.98	463.12	552.16	655.12
Loss/gain on Foreign Exchange	-207.99	-172.3	162	28.24	251.12	-280
Total Variable Cost	245.84	321.63	492.98	491.36	803.28	375.12
Fixed Cost						
Employee Cost	773.63	687.62	717.24	927.14	1136.82	1164.82
Administration Cost	577.4	611.5	752.63	798.52	835.24	921.32
Interest	211.05	106.79	97.52	89.54	57.25	63.98
Depreciation	799.5	825.95	931.26	1005.25	1048.63	1195.18
Total Fixed Cost	2361.58	2231.86	2498.65	2820.45	3077.94	3345.3
Actual Sales	5487.18	6159.02	7208.08	8312.22	8584.14	10413.65
Actual Profit	2879.76	3605.53	4216.45	5000.41	4702.92	6693.23
Cost - Volume Profit (BEP) Analysis						
Fiscal Year	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74
Particulars						
(i) Variable Cost Volume Ratio [Total VC/Total Sales]	0.04	0.05	0.07	0.06	0.09	0.04
(ii) Profit Volume Ratio [1-VC Ratio]	0.96	0.95	0.93	0.94	0.91	0.96
(iii) BEP (In Rs - Million) [TFC/PV Ration]	2472.35	2354.83	2682.09	2997.65	3395.70	3470.31
(iv) Margin of Safety [Actual Sales - BEP Sales]	3014.83	3804.19	4525.99	5314.57	5188.44	6943.34
(v) Margin of Safety Ration [Margin of Safety /Actual Sales]	0.55	0.62	0.63	0.64	0.60	0.67
(vi) Profit [Margin of Safety × PV Ratio]	2879.76	3605.53	4216.45	5000.41	4702.92	6693.23
Summery						
Actual Sales	5487.18	6159.02	7208.08	8312.22	8584.14	10413.65
BEP Sales	2472.35	2354.83	2682.09	2997.65	3395.70	3470.31
Actual Profit	2879.76	3605.53	4216.45	5000.41	4702.92	6693.23
Profit under MOS	3014.83	3804.19	4525.99	5314.57	5188.44	6943.34
Difference In Profit [Profit under MOS - Actual Profit]	135.07	198.66	309.54	314.16	485.52	250.11

Source: Annual Report of NTC.

The table 4.13 shows that BEP of NTC is lower than sales in all fiscal years but NWSC has low sales than BEP. It indicates that the NTC has operating above BEP in present cost structure and selling price but NWSC has not operating BEP Cost and selling Price. This table indicates that management of NTC is very good from point of view of using CVP analysis. NTC is in profit position from years. As BEP is increasing each year, it is not a good symptom for the corporation. The management

should try to minimize the BEP as far as possible. The lower BEP, the higher will be the efficiency of the corporation.

Table No. 4.14
Cost Classification and Actual Sales and BEP Analysis of NWSC

(Rs. In Million)

Particulars	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74
Variable Cost :						
Power and fuel	78.931	98.931	102.925	104.038	116.83	116.83
Repair & Maint.	93.467	97.963	86.617	94.341	98.063	98.063
Total Variable Cost	172.398	196.894	189.542	198.379	214.893	214.893
Fixed Cost						
Employee Cost	202.238	208.837	207.567	208.345	245.753	265.52
Chemical	6.715	8.114	10.135	10.412	7.609	8.08
Administration Cost	30.276	32.688	44.261	45.451	32.165	37.26
Interest	31.957	48.115	52.22	56.188	61.756	64.25
Depreciation	95.398	102.286	108.385	127.58	152.48	166.24
Provision for bad debt	28.279	18.092	27.507	11.124	23.763	17.88
Total Fixed Cost	394.863	418.132	450.075	459.1	523.526	559.23
Actual Sales	424.61	438.02	511.95	539.95	706.1	736.24
Actual Profit	-142.65	-177.01	-127.67	-117.53	-32.32	-37.88
Cost - Volume Profit (BEP) Analysis						
Fiscal Year	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74
Particulars						
(i) Variable Cost Volume Ratio [Total VC/Total Sales]	0.41	0.45	0.37	0.37	0.30	0.29
(ii) Profit Volume Ratio [1-VC Ratio]	0.59	0.55	0.63	0.63	0.70	0.71
(iii) BEP (In Rs - Million) [TFC/PV Ration]	664.77	759.56	714.67	725.74	752.56	789.74
(iv) Margin of Safety [Actual Sales - BEP Sales]	-240.16	-321.54	-202.72	-185.79	-46.46	-53.50
(v) Margin of Safety Ration [Margin of Safety /Actual Sales]	-0.57	-0.73	-0.40	-0.34	-0.07	-0.07
(vi) Profit [Margin of Safety × PV Ratio]	-142.65	-177.01	-127.67	-117.53	-32.32	-37.88
Summery						
Actual Sales	424.61	438.02	511.95	539.95	706.10	736.24
BEP Sales	664.77	759.56	714.67	725.74	752.56	789.74
Actual Profit	-142.65	-177.01	-127.67	-117.53	-32.32	-37.88
Profit under MOS	-240.16	-321.54	-202.72	-185.79	-46.46	-53.50
Difference In Profit [Profit under MOS - Actual Profit]	-97.51	-144.54	-75.05	-68.26	-14.14	-15.61

Source: Annual Report of NWSC.

The table 4.14, NWSC shows that actual sales are lower than BEP sales in all fiscal year. It indicates that NWSC is operating below BEP in present cost structure. It further indicates that the position of NWSC in terms of cost volume profit analysis is not satisfactory. As BEP is increasing each year, it is not good symptom for the Corporation. It should try to minimize the BEP as far as possible. The lower the BEP, the higher will be the efficiency of the company. Management of NWSC must try to maintain its profit according to margin of safety and PV ratio.

4.2.3 Flexible Budget

The basic concept of flexible budgets for expenses is that all expenses are incurred because of the passage of time, productivity level or combination of both time and activity level. A flexible budget estimates costs at different level of activity. By the help of flexible budget, a firm can determine the operation level by considering the cost and profit at different level of activity.

At activity level of 90%, 100% and 110% what behaviour will show the cost and its impact on net income is shown in Table no. 30 for NTC and in Table no. 31 for NWSC

Table No. 4.15
Flexible Budget Of NTC for FY 2073/74

Activity Level	90%	100%	110%
Sales Revenue	9372.29	10413.65	11455.02
Less: Variable Cost (3.6022% of Sales)	337.61	375.12	412.63
Contribution Margin	9034.68	10038.53	11042.38
Less: Fixed Cost	3345.30	3345.30	3345.30
Net Income before Tax	5689.38	6693.23	7697.08

Source: Annual Report of NTC 2073/74

Table 4.15 shows that through NWSC and NTC have not practice of preparing flexible budget, this budget for F/Y 2070/71 is prepared? Sales revenue has been assumed to remain constant. Similarly, variable cost per unit remains unchanged i.e. variable cost ratio of 3.6022% for NTC And 29.19% for NWSC remains constant and total cost will remain constant. The above flexible budget of NTC and NWSC both is prepared at different activity level from 90-110percent capacity utilization.

Table No. 4.16
Flexible Budget of NWSC for FY 2073/74

Activity Level	90%	100%	110%
Sales Revenue	662.62	736.24	809.86
Less: Variable Cost (29.19% of Sales)	193.40	214.89	236.38
Contribution Margin	469.21	521.35	573.48
Less: Fixed Cost	559.23	559.23	559.23
Net Income before Tax	-90.02	-37.88	14.25

Source: Annual Report of NWSC 2073/74

The analysis done in above table 4.16 shows that NWSC includes in huge variable and NTC in Fixed cost. Maximum portion of fixed cost in both NWSC and NTC includes administrative and office operation. These are to be controlled properly, which are obstacles to generate satisfactory operating profit. Thus NWSC and NTC both should review its capital structure and has to follow cost control programmes in every cost center.

4.2.4 Financial Analysis

Ratio analysis is a widely used tool of financial analysis. The term ratio represents the numerical or quantitative relationship between two variables. Financial analysis is a tool used to know the performance of any enterprises. It presents the actual situation of the organization. It provides guidelines especially in spotting trend towards better or poor performance. Since financial efficiency is vital element to achieve the goals, the management should be aware of the current financial position. If present condition can be assessed than the management can predict the future position. Corrective action can be taken to improve financial position. So it is very important for any enterprise to analyze it financial position with the help of Ratio Analysis.

4.2.4.1 Current Ratio:

This ratio is an indicator of the firm's commitment to meet its short-term liabilities. It is expressed as bellow:

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

This ratio helps to analyze the financial capacity to repay current debt.

Table No. 4.17
Current Ratio of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	Current Asset	Current Liabilities	Ratio	Current Asset	Current Liabilities	Ratio
2068/69	982.97	525.77	1.87	12320.60	5858.10	2.10
2069/70	1077.91	658.74	1.64	15403.34	7777.47	1.98
2070/71	1061.31	735.66	1.44	17229.87	10137.35	1.70
2071/72	1141.26	845.28	1.35	17936.57	11942.12	1.50
2072/73	1271.92	915.73	1.39	21167.49	14722.67	1.44
2073/74	1481.59	300.56	4.93	22526.52	15634.25	1.44
Total	7016.95	3981.724	12.62	106584.39	66071.96	10.16
Mean	1169.49	663.62	2.10	17764.07	11011.99	1.69
S.D	180.87	224.76	1.40	3735.87	3841.60	0.29
C.V	15.47	33.87	66.49	21.03	34.89	17.03
Combined S.D	1.01					
Calculated /t/	-1.40					

Source: Annual Report of NTC and NWSC.

Table 4.17 shows that current ratio of NWSC for the study period remained 1.87, 1.64, 1.44, 1.35, 1.39 and 4.93 respectively from the year 057/58 to 2070/71. Mean of the ratio appeared to be 2.10 and C.V. appeared 66.49. Similarly the ratios of NTC corresponding period remained 2.10, 1.98, 1.70, 1.50, 1.44 and 1.44. Mean of the ratios came 1.69 whereas C.V. came 17.03.

Between two public utilities NWSC and NTC, NTC seems too efficient in maintaining the good liquidity position.

The calculated value of 't' (-1.40) remained very much lower than the tabulated value (2.306) at 5% level of significance. Hence null hypothesis has been accepted i.e. the mean of the current ratios of the sampled public utility does differ significantly.

4.2.4.2 Total Debt Ratio

This ratio shows the relationship between the long-term debt and total capital. Total capital includes the shareholder's equity as well as long-term debt. Total Debt. Ratio is also known as Debt to Total Capital Ratio. It is expressed as follows:

$$\text{Total Debt Ratio} = \frac{\text{Total Debt}}{\text{Capital Employed}}$$

This ratio is help to analyze the relationship between creditors fund and total capital.

Table No. 4.18

Total Debt Ratio of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	Total Debt	Capital Employed	Ratio	Total Debt	Capital Employed	Ratio
2068/69	1820.30	2051.77	0.89	952.35	14954.42	0.06
2069/70	1894.49	2033.07	0.93	299.90	17525.13	0.02
2070/71	1943.83	1987.25	0.98	233.78	18452.35	0.01
2071/72	2041.18	1987.25	1.03	11.25	19526.33	0.00
2072/73	1738.26	1988.85	0.87	24.24	21586.34	0.00
2073/74	992.42	3421.60	0.29	0.00	23686.03	0.00
Total	10430.47	13469.784	0.83	1521.52	115730.60	0.01
Mean	1738.41	2244.96	0.831	253.59	19288.43	0.016
S.D	379.85	577.08	0.271	365.09	3074.66	0.024
C.V	21.85	25.71	32.63	143.97	15.94	154.47
Combined S.D	0.19					
Calculated Value of /t/	-2.45					

Source: Annual Report of NTC and NWSC.

Table 4.18 highlights that the ratio of NWSC remained 0.89, 0.93, 0.98, 1.03, .087 and 0.29 in the respective years of study period. Mean of the ratios came to be 0.83 and C.V to be 32.63. In the similar way of NTC for the corresponding years remained 0.06, 0.02, 0.01, 0.00 and 0.00 Average of ratio was 0.016 and C.V. was 154.47%.

The ratio of NWSC (except F/Y 2073/74) is in increasing trend whereas there is decreasing in NTC.

The analysis makes it obvious that debt capital i.e. outsider fund was dominant in the capital structure of NWSC as reflected by higher mean ratio. C.V. of the ratios remained lower in NWSC, which indicates greater uniformity in the ratios of different years. Whereas NTC with lower ratio is subjected to lower risk and this will in turn decrease the chance of getting higher return.

The calculated value of 't' came -2.45, which is less than the table value i.e. 2.306 at 5% level of significance. That's why null hypothesis has been accepted i.e. mean ratio two public utility sector differs significantly.

4.2.4.3 Working Capital Turnover Ratio

This is also known as working capital leverage Ratio. This ratio indicates whether or not working capital has been effectively utilized in making sales. In case a company can achieve higher volume of sales with relatively small account of working capital, it is an indication of the operating efficiency of the company. This ratio is calculated as follows:

$$\text{Working Capital Turnover Ratio} = \frac{\text{Net Sales}}{\text{Working Capital}}$$

The ratio helps to analyze the efficiency to generate sales and sales affect the earning.

Table No. 4.19

Working Capital Turnover of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	Sales	Working Capital	Ratio	Sales	Working Capital	Ratio
2068/69	421.61	1021.24	0.41	5487.18	7462.50	0.74
2069/70	462.59	1024.07	0.45	6159.02	7625.95	0.81
2070/71	513.33	1155.35	0.44	7208.08	8765.24	0.82
2071/72	530.81	1274.57	0.42	8312.22	9844.27	0.84
2072/73	662.41	1328.76	0.50	8584.14	10725.36	0.80
2073/74	683.85	1704.49	0.40	10413.65	12902.43	0.81
Total	3274.60	7508.48	2.63	46164.29	57325.75	4.82
Mean	545.77	1251.41	0.44	7694.05	9554.29	0.80
S.D	106.10	255.22	0.04	1790.72	2067.96	0.04
C.V	19.44	20.39	8.14	23.27	21.64	4.56
Combined S.D	0.04					
Calculated /t/	35.03					

Source: Annual Report of NTC and NWSC.

The table 4.19 shows that NTC has been utilizing most efficiently its net working capital than NWSC as shown by higher mean ratio shows. By comparing C.V. of the ratios, it can be concluded that the ratios of NWSC for different 6 years varied considerably.

The calculated of 't' remained greater than the table value at 5% level of significance (35.03>2.306). That's why null hypothesis has been rejected i.e. working capital turnover ratio of the sampled public utility sector differs significantly.

4.2.4.4 Total Fixed Assets

This ratio indicates the extent to which the investments in fixed assets contribute towards sales. It compare with a previous period, it indicates the investment in fixed assets has been judicious or not. The ratio is calculated as follows:

$$\text{Total Fixed Assets Turnover ratio} = \frac{\text{Sales}}{\text{Total Fixed Assets}}$$

This ratio helps to analyze the efficiency with which the firm has been using its fixed assets to generate sales.

Table No. 4.20

Total Fixed Asset Turnover of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	Sales	Total Fixed Asset	Ratio	Sales	Total Fixed Asset	Ratio
2068/69	421.61	2063.89	0.20	5487.18	9263.79	0.59
2069/70	462.59	2109.61	0.22	6159.02	10033.00	0.61
2070/71	513.33	2768.87	0.19	7208.08	11425.25	0.63
2071/72	530.81	2756.57	0.19	8312.22	13258.71	0.63
2072/73	662.41	2909.31	0.23	8584.14	15023.57	0.57
2073/74	683.85	3232.99	0.21	10413.65	16688.44	0.62
Total	3274.60	15841.245	1.24	46164.29	75692.76	3.66
Mean	545.77	2640.21	0.21	7694.05	12615.46	0.61
S.D	106.10	462.08	0.02	1790.72	2902.46	0.02
C.V	19.44	17.50	7.74	23.27	23.01	3.84
Combined S.D	0.02					
Calculated /t/	69.65					

Source: Annual Report of NTC and NWSC.

The table 4.20 reveals that the ratios of NWSC remained 0.20, 0.22, 0.19, 0.19, 0.23 and 0.21 respectively. Mean and CV of the ratios seemed 0.21 & 7.74%. Accordingly the ratios in NTC were maintained 0.59, 0.61, 0.63, 0.57 and 0.62 respectively. Mean of the ratios was 0.61.

The ratio in NTC depicted increasing trend while in NWSC decreased in 2070/71 and gradually increased in the latter years nominally.

Increment in fixed asset turnover ratio indicates the improved work efficiency and FA has been effectively mobilized and good financial condition. Higher mean ratio of NTC shows better utilization of FA than NWSC. CV analysis showed lesser uniformity in NTC as against the NWSC.

The calculated value of /t/ came much greater than tabulated value at 5% level of significance (69.65>2.306). Therefore null hypothesis has been rejected i.e. difference noticed in the mean ratio of public utility sector is significant.

4.2.4.5 Total Asset Turnover Ratio

This ratio is employed to take information on total assets for generating sales in operation of business by the firm. It shows the relationship between total assets and sales. This ratio is calculated as follow.

$$\text{Total Asset turnover ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

The ratio reflects how well the company's assets are being used to generate its sales.

Table No. 4.21
Total Asset Turnover of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	Sales	Total Asset	Ratio	Sales	Total Asset	Ratio
2068/69	421.61	3046.86	0.14	5487.18	21764.87	0.25
2069/70	462.59	3187.51	0.15	6159.02	25602.50	0.24
2070/71	513.33	1987.25	0.26	7208.08	28823.48	0.25
2071/72	530.81	3897.83	0.14	8312.22	31479.70	0.26
2072/73	662.41	4181.23	0.16	8584.14	36333.25	0.24
2073/74	683.85	4714.58	0.15	10413.65	39351.41	0.26
Total	3274.60	21015.265	0.98	46164.29	183355.21	1.51
Mean	545.77	3502.54	0.16	7694.05	30559.20	0.25
S.D	106.10	968.39	0.05	1790.72	6578.93	0.01
C.V	19.44	27.65	28.77	23.27	21.53	4.65
Combined S.D	0.03					
Calculated /t/	8.86					

Source: Annual Report of NTC and NWSC.

The table 4.21 shows ratios in NWSC & NTC both are in fluctuating trend. Mean ratio of NTC appeared considerably higher which signifies that NTC is more successful in utilizing the resources in revenue generating sector than NWSC.

Though sales revenue has increased each year, total assets has also increased. CV of the ratio depicted that the ratio remained more consistent in NTC as compared to NWSC.

The greater calculated value of /t/ is than the tabulated value at 5% level of significance i.e. 2.306. So the alternative hypothesis has been accepted i.e. public utility sector differ significantly with respect to this ratio.

4.2.4.6 Capital Employed Turnover Ratio

A relationship between sales and total capital is represented by this ratio. It is a measure of efficiency of the capital employed in the business. The following formula us used for calculating this ratio:

$$\text{Capital Employed Turnover Ratio} = \frac{\text{Sales}}{\text{Capital Employeed}}$$

This ratio indicates how many times capital has turned into sales.

Table No. 4.22

Capital Employed Turnover of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	Sales	Capital Employed	Ratio	Sales	Capital Employed	Ratio
2068/69	421.61	2051.77	0.21	5487.18	14954.42	0.37
2069/70	462.59	2033.07	0.23	6159.02	17525.13	0.35
2070/71	513.33	1987.25	0.26	7208.08	18452.35	0.39
2071/72	530.81	1987.25	0.27	8312.22	19526.33	0.43
2072/73	662.41	1988.85	0.33	8584.14	21586.34	0.40
2073/74	683.85	3421.60	0.20	10413.65	23686.03	0.44
Total	3274.60	13469.784	1.49	46164.29	115730.60	2.37
Mean	545.77	2244.96	0.25	7694.05	19288.43	0.40
S.D	106.10	577.08	0.05	1790.72	3074.66	0.03
C.V	19.44	25.71	19.91	23.27	15.94	8.50
Combined S.D	0.04					
Calculated /t/	12.02					

Source: Annual Report of NTC and NWSC.

Higher mean ratio (0.40) in NTC means that NTC has used capital more efficiently for income generating purpose than NWSC. NWSC has given less importance to this issue. NWSC has more non-performing assets i.e. idle asset. The consistency in the ratio was found higher in NTC from the CV analysis.

This calculated value of t i.e. 12.02 remained greater than the tabulated value i.e. 2.306 at 5% level of significance, Hence null hypothesis has been rejected i.e. turnover of capital employed in terms of sales significantly differs between these two.

4.2.4.7 Net Profit Ratio

This ratio measures the overall profitability of the firm by establishing relationship between net profit and sales. The relationship between net profit and sales indicates management's ability to operate the business with sufficient success not only to recover the cost of production, operating expenses of business and cost of borrowed fund but also to leave a margin of a reasonable compensation to the owners for providing their capital at risk. This ratio is calculated by dividing net profit after taxes and interest by sales and expressed as percentage of net sales as follows:

$$\text{Net Profit Ratio} = \frac{\text{Net profit after tax}}{\text{Sales}}$$

Table No. 4.23
Net Profit Ratio of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	Net Profit/Loss	Sales	Ratio	Net Profit/Loss	Sales	Ratio
2068/69	-30.67	421.61	-0.07	2045.47	5487.18	0.37
2069/70	-47.73	462.59	-0.10	2570.27	6159.02	0.42
2070/71	-4.57	513.33	-0.01	2588.22	7208.08	0.36
2071/72	-42.91	530.81	-0.08	2048.14	8312.22	0.25
2072/73	-35.42	662.41	-0.05	3230.47	8584.14	0.38
2073/74	-28.53	683.85	-0.04	3904.31	10413.65	0.37
Total	-189.83	3274.6	-0.36	16386.88	46164.29	2.15
Mean	-31.64	545.77	-0.06	2731.15	7694.05	0.36
S.D	15.12	106.10	0.03	722.30	1790.72	0.06
C.V	-47.80	19.44	-54.89	26.45	23.27	16.21
Combined S.D	0.05					
Calculated Value of t	30.68					

Source: Annual Report of NTC and NWSC.

The table 4.23 demonstrates the ratios in NWSC remained -0.07,-0.10, -0.01, -0.08, -0.05, and -0.04 in the respectively years of review period. Mean and CV of the ratios appeared (6%) and (54.89%). It means profitability position of NWSC remained quite poor; its average mean profit is in negative. The reason for loss may be insufficient operation or poor utilization of the resources.

NTC has maintained the ratio as 0.37, 0.42, 0.36, 0.25, 0.38 and 0.37. Mean ratio 36% was considerably higher in NTC, which signifies that the profitability position of the NTC in relation this ratio is far better than that of NWSC. C.V. of the ratios in NWSC exceeded the same in NTC by a large amount, which indicates that variability of the ratio in NWSC was much higher.

The calculated value of t i.e. 30.68 was found greater than tabulated value at 5% level of significance. Hence null hypothesis has been rejected i.e. observed difference in the mean ratio of the sampled public utility is significant.

4.2.4.8 Net profit To Total Fixed Asset Ratio

This ratio shows the relationship between net profit and fixed assets. It indicates that utilization and contribution of fixed assets towards net profit. It is calculated as follow:

$$\text{Net profit To Total Fixed Asset Ratio} = \frac{\text{Net profit before Interest and Tax}}{\text{Total Fixed Asset}}$$

The ratio measures the efficiency of the performing fixed asset.

Table No. 4.24

Net Profit to Total Fixed Asset Ratio of NWSC and NTC

(Rs. In Million)

F/Y	NWSC			NTC		
	NPBIT	Total FC	Ratio	NPBIT	Total FC	Ratio
2068/69	-110.69	2063.89	-0.05	2668.71	9263.79	0.29
2069/70	-144.32	2109.61	-0.07	3498.74	10033.00	0.35
2070/71	-75.45	2768.87	-0.03	4118.93	11425.25	0.36
2071/72	-61.34	2756.57	-0.02	4910.87	13258.71	0.37
2072/73	29.37	2909.31	0.01	4645.67	15023.57	0.31
2073/74	26.37	3232.99	0.01	6629.25	16688.44	0.40
Mean	-56.01	2640.21	-0.03	4412.03	12615.46	0.35
S.D	71.09	462.08	0.03	1354.89	2902.46	0.04
C.V	-126.93	17.50	-124.34	30.71	23.01	11.67
Combined S.D	0.04					
Calculated t	35.41					

Source: Annual Report of NTC and NWSC.

The table 4.24 shows that NTC utilizes fixed asset in generating profit before interest and tax efficiently (35 %mean ratio). The trend moves toward satisfactory position. The ratio of NWSC shows improver utilization of fixed asset in generating profit. More variability is noticed in NWSC and means ratio differs significantly.

4.2.4.9 Return on Capital Employed Ratio

This ratio measures that relationship between capital employed and net profit after tax. This ratio indicates how well the management has used the fund supplied by creditors and owners. This ratio can be calculated by using either of the following formula:

$$\text{Return on Capital Employed Ratio} = \frac{\text{Net profit after tax}}{\text{Capital Employed}}$$

Intangible asset includes goodwill, patents, trades mark, copyrights. Whereas capital employed means:

Equity and Preference share Capital + Reserves + P/L(Cr) + Share Premium + other undistributed profit + Debenture + Bond + Long term loan – non business assets i.e. investment in Gov. securities fictitious assets i.e. preliminary expenses & P/L (Dr) balance.

This ratio measures the overall effectiveness of management in producing profit by using total capital.

Table No. 4.25
Return on Capital Employed Ratio of NWSC and NTC
(Rs. In Million)

F/Y	NWSC			NTC		
	Net Profit/Loss	Capital Employed	Ratio	Net Profit/Loss	Capital Employed	Ratio
2068/69	-30.67	2051.77	-0.01	2045.47	14954.42	0.14
2069/70	-47.73	2033.07	-0.02	2570.27	17525.13	0.15
2070/71	-4.57	1987.25	0.00	2588.22	18452.35	0.14
2071/72	-42.91	1987.25	-0.02	2048.14	19526.33	0.10
2072/73	-35.42	1988.85	-0.02	3230.47	21586.34	0.15
2073/74	-28.53	3421.60	-0.01	3904.31	23686.03	0.16
Total	-189.83	13469.784	-0.09	16386.88	115730.60	0.84
Mean	-31.64	2244.96	-0.01	2731.15	19288.43	0.14
S.D	15.12	577.08	0.01	722.30	3074.66	0.02
C.V	-47.80	25.71	-54.97	26.45	15.94	14.22
Combined S.D	0.02					
Calculated /t/	35.28					

Source: Annual Report of NTC and NWSC.

The table 4.25 shows that ratio in NWSC for the respective years of the study period were -0.01, -0.02, -0.00, -0.02, -0.02 and -0.01. Mean ratio appeared (1%) and CV appeared (54.97%). In the similar way, the ratio of NTC remained 14%, 15%, 14%, 10%, 15% and 16% in the corresponding years. Mean and CV of the ratios seemed 14% and 14.22% respectively.

In NWSC it remained negative for in all F/Y a study period. While in NTC it was almost constant. Mean ratio of NTC appeared much more than that of NWSC, which indicates, that the earning of the former with respect to the capital employed is appreciably high. Contrary to it, return on capital employed of NWSC appears unsatisfactory as per mean ratio. Higher CV of the ratios of NWSC signifies that lesser un-uniformity in the ratio.

The computed value of t came greater than the tabulated value at 5% level of significance ($35.28 > 2.306$). Hence null hypothesis has been rejected i.e. probability position of two public utility sector to this ratio is significantly different.

To conclude after analyzing the financial ratios, it can be said that NTC is better in every aspect of financial position than NWSC. NWSC must utilize the resources at maximum through systematic and pre-plan program.

4.3 Major Findings of the Study

The above analysis of various functional budgets, their achievements and the analysis of financial position of NWSC shows that NWSC is suffering from a number of internal and external problems in formulating and implementing profit plans in spite of its best effort.

On the basis of data presentation and their analysis the most remarkable findings in relation to this study have been presented follow.

1. The NWSC and NTC fail to maintain its periodic performance report systematically. Goals and objectives are known to high-ranking officials only.
2. There exists unnecessary centralized decision-making and planning system. Lower level participation is not encouraged. It denotes the absence of MBO principle of management in the organization.

3. Inadequate planning of profits due to lack of skilled and purely academic manpower in budgeting section of enterprises. As well as inadequate authority and responsibility to planning department.
4. Read- tapes in implementation phase of profit plans.
5. Achievement of NWSC are more variable than budget in comparison of NTC due to inadequate forecasting system.
6. Failure in achievement due to inadequate evaluation of internal and external variable.
7. NWSC suffering from high rate of power loss as sale is below than the production while NTC fails to produce according to demand.
8. Lack of dynamic and effective cost control programs as well as there is not separate costing department, and Responsibility Accounting System.
9. Overheads are not classified systematically and it creates problems to analyze its expenses properly.
10. Due to high fixed cost Break even sales is high in context of sales Revenue in NWSC while P/V ratio 0.94 and average in NTC is also unusually high.
11. Flexible budget is completely ignored in both NWSC and NTC.
12. The financial ratios of NWSC are perfectly dissatisfactory.
13. HRM policy in both organizations is not satisfactory.
14. Auditing system of NTC is better than in NWSC.
15. Little corporate Social Responsibility is fulfilled by both organizations.
16. There is Lack of coordination among various responsible departments.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The main objective of business is increase the 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.

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 plan 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 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.

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.

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. Nepal water Supply Corporation and Nepal Telecommunication Corporation (Now converted into Company) have been taken as representative public enterprises in Nepalese public utility sector.

The study intends to analyze and examine the practice of profit planning in NTC and NWSC. The study tries to answer the questions like, what is the overall trend of profit planning in NTC and NWSC. What are the major problems and issues relating to development of profit plan? The significance of the study of the study is really on the examination that whether the NTC and NWSC are applying profit planning system properly or not. The general objectives of this study are to analyze the profit planning and control tools adopted by NTC and NWSC; the evolution of the variance between the targeted and the actual of both public utility and the assessment of the financial performance of NTC and NWSC using BEP analysis and ratio analysis. The study covers the analysis of only five year's data. The study has been divided into five different chapters: introduction, review of literature, Research methodology, presentation and analysis of data, and Summary, Conclusion & recommendations.

5.2 Conclusions

NWSC and NTC have not adequately considered controllable and non-controllable variable affecting the company. Furthermore, they have 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. NWSC and NTC have 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 maximize the interest and motivation of all employees. Planning department of NTC and NWSC 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. Red-tapism is 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.

Sales plan achievement is satisfactory in NTC. NTC has not practiced to prepare long-term sales plan. But in NWSC, sales achievements are below than sales targets. This signals that sales plans are not made by considering all components which affecting sales. Pricing system of Public utility sector is not scientific. PEs adopts traditional pricing methods. Usually, cost-plus pricing method is applied to determine price. Certain products are priced below costs as per HMG circular. Cost-volume-profit relationship has not been considered while developing the sales plans; fixed assets purchase plan and pricing strategy. As BEP is increasing each year, it is not a good symptom for the corporation. 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. The production plan and achievement of NWSC is satisfactory to some extent. But NTC's production achievement is too below than the production targets. Correction between budget and actual production of both NWSC and NTC is highly significant and positive. Regression line and least square straight line production trend of both NWSC and NTC both indicates a positive trend. Hypothesis shows dissimilarity in context of budgeted production and actual production between NWSC and NTC.

The leakage of drinking water which is assumed to 25% should be controlled by NWSC. 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 in

Nepalese PEs. Capital expenditure plans are not adequately prepared in advance in NWSC. NWSC evaluates the capital expenditures proposal with traditional methods, such as; pay back period method and average rate of return method. While NTC uses traditional techniques and discounted technique both to evaluate capital expenditure proposals. So NTC has effective process for capital expenditures decision than NWSC. NWSC's operating profit is negative for the last some years. Though, it has shown net profit, it is only after the transfer from revaluation surplus. NTC is at better position and it has positive trend to profit in future. Profit and Loss of NWSC is more variable than that of NTC. NWSC will not able to eliminate loss and to make profits until and unless it is not able to effectively implement the cost reduction program. Increasing cost in each fiscal year is another remarkable point for NWSC. It has yet not adopted the cost control measures. NTC can improve its profitability by increasing capacity. The balance sheet of NWSC show greater portion of long term debt. The interest payable on it reduces profit of authority and the balance sheet of NTC shows the huge amount of cash and bank balance lying idle and it indicates some deficiency of the corporation to utilize its liquid assets. The NTC has high amount of fixed costs and the interest payable on long-term loans every year constitutes considerable portion of fixed costs than that of NWSC. Expenses are not identified as fixed and variable in NWSC and NTC. So, NWSC and NTC are not able to use contribution margin approach, which has a vital impact upon profitability. P/V Ratio of NTC is higher than P/V Ratio of NWSC. The means NTC will be in higher profitability than NWSC after Break-even sales. NWSC and NTC are seriously suffering from excessive fixed costs and non-manufacturing expenses. But these companies have not any effective cost reduction program.

The overall financial position is not satisfactory of NWSC. But NTC is strong in comparison of NWSC. NTC has been earning certain amount of net profit in each fiscal year but it is very low in comparison with the investment on total assets. Liquidity position of NTC as current ratio shows is 2.12:1 satisfactory. NWSC is not in position to pay the current liabilities at the time requirement. Leverage ratio indicates NWSC is taking high risk while NTC is not. Turnover ratio in NTC is constant that shows efficient utilization of its working capital, total fixed assets, total assets, and capital employed in the generation of sales in comparison of NWSC. It means improper utilization of these have affects adversely to the profitability of

NWSC. Profitability ratios of NTC are also greater than the NWSC. It means the ratio of cost of manufactured to sales of NTC is less than the ratio of cost of production to sales of NWSC. Nepalese public enterprises lack entrepreneurship. These enterprises are not operated on commercial basis.

5.3 Recommendations

On the basis of the comparative study of profit planning in Nepal Water Supply Corporation and Nepal Telecommunication Corporation as representative public utility sectors, it seems necessary to develop, implement and improve the process and profit planning in these public enterprises from the very beginning to the end. Assuming these two enterprises as the representative public utilities following keys can be recommended to improve the development and implementation of profit plans.

1. All PEs should adequately identify and evaluate the internal and external variable, which has influences on the enterprises. These enterprises should have in- depth analysis of company's strength and weakness.
2. NWSC and NTC should have major programs to accomplish formulated objectives and to implement them continuously and consistently to increase the levels of performance and to take full advantage of the latest techniques and innovations as they are developed.
3. NWSC and NTC should decide to develop effective program to expand growth rate. Both NWSC and NTC should adopt participatory management policy as well as Management By Objective (MBO), so as to make the employees feel they are working for their own company.
4. To eliminate red-tapism, unnecessary formalities should be corrected and avoided which create delays in decision making and functioning.
5. Trained and qualified manpower for budgeting and planning should be hired and present manpower should be trained to develop and implement the profit plans effectively.
6. 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. The process of developing a realistic sales plan should be unique according to the requirement of the enterprise.

7. The theoretical formula for production as well as stable production policy except un-usual cases should be considered, if possible.
8. In NWSC leakage of drinking Water should be controlled. For this, meter reading and meter joining system should be controlled. The most important aspect is to motivate its employees who engaged in transmission and distribution line to control the leakage. Rules and regulations should be strictly implemented to control the leakage and those staffs who are themselves engaged in encouraging power leakage should be investigated and strictly be demoralized. NTC should decide to develop effective program to expand its production growth rate.
9. Capital expenditures should be planned in advance and discounted cash flow techniques should be applied to evaluate the proposals.
10. Profit is the difference between revenue and cost. Higher is the difference greater will be profit, such difference may happen in the following condition.
 - a. Increase in income, cost remaining the same.
 - b. Decrease in cost, income remaining the same.
 - c. Increase in income, decrease in cost.
 - d. Higher increase in income, than increase in cost.
 - e. Higher decrease in cost than decrease in income.
11. To increase the Profit of NWSC
 - a. NWSC must follow the immediate measure to control staff cost and operation, maintenance and administrative cost. Though the operation of NWSC is expanded, it should be inclined to control these expenses. Appointment of staff under political recommendation, unnecessary expenses in the name of office management and other recreation and refreshment expenses should be avoided. And overstaffing should be discouraged.
 - b. NWSC should stress on efficient utilization of fixed assets. Amount should not be tied up haphazardly in plant and high cost assets. For this, NWSC should develop and apply capital budgeting technique more effectively. The sales revenue is to be generated in comparison with the amount tied up in assets.

- c. NWSC should try to maximize its operating profit. For this, cost control program can be launched in one respect and the alternative for the replacement of long-term loans should be searched.
- 12. To increase the net profit of NTC: There should be controlled operating as well non-operating expenses. There is increasing unnecessary and wasteful expenses, which are bad debt written off, repair and maintenance expenses and management and committee fees etc. There is possibility to bring down those unproductive expenses if the management and staff of NTC are to be more careful in cost factor.
 - a. NWSC must restructure its capital structure and should emphasize the internal financing to minimize the burden of high interest of long term loans. For this, it can issue shares and can refund the debt.
 - b. NWSC should develop efficient system of revenue collection. It should make well-defined rules and regulations in regard of revenue collection and if the customer of any category delays or denies, it should be charged penalty. In revenue collection, any kind of pressure and biases should strictly be undermined. Huge amount of account receivable especially of Municipality metropolis, sub-metropolis consumed in street lights should be managed and receivable can be collected by imposing its expenditures to the neighbouring community people.

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