

# **CHAPTER - I**

## **INTRODUCTION**

### **1.1 General Introduction**

#### **1.1.1 Sales planning and Budgeting**

Plan is the detail proposal for doing or achieving something, whereas planning is one of the functions of management accounting in which plans for the future activities and operation of an organization are incorporated into its budgets, etc. Budget is a financial or quantitative statement prepared prior to a specified accounting period, containing the plans and policies to be pursued during that period.

A sales planning is the first step of master budgeting. It displays the projected sales in unites and rupees. It provides an estimate of goods to be sold and revenue to be realized from the sale of goods and services. The sales planning process is necessary part of profit planning and control because: (a) it provides the basic management decisions about marketing and (b) based on those decisions, it is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic, most of the other parts of the overall profit plan also are not realistic. Therefore, if the management believes that a realistic sales plan cannot be developed; there is little justification for profit planning and control. Despite the views of a particular management, such a conclusion may be an implicit admission of incompetence. Simply, if it is really impossible to assess the future revenue potential of a business, there would be little incentive for investment in the business initially or for continuation of it except for purely speculative ventures that most managers and investors prefer to avoid.

Budgeting is the process of preparing a budget. A budget is a document or a collection of documents that refers to the financial condition and future plans of an organization

(family, corporation, government), including information on revenues, expenditures, activities, and purposes of goal. In contrast to an accounting operating statement, which is retrospective in nature, referring to past conditions, a budget is prospective, referring to anticipated future revenues, expenditures and accomplishments. Of course, budgets always contain some information about past revenues and expenditures that is consistent with accounting records.

### **1.1.2 Types of sales planning**

#### **A. Long – range sales planning**

It covers 5 to 10 years. It is broad and general. It is usually developed by year and annual amount. It is prepared on the basis of management established objectives, policies and strategies. Long term sales planning do not include detail plan. This is lump sum forecasting of sales. It is prepared by considering future market potentials, population changes, state of economy, industry projections, company objectives and long term strategies.

#### **B. Short – range sales planning**

A general practice in planning for short term sales is to consider time period not more than 12 months future time period detailed by quarter and month for the first quarter. The tactical sales plan includes a detailed plan for each major product and for groupings of minor products. Short term sales plan are usually developed in terms of physical units and in sales rupees.

### **1.2. Public Enterprises**

Public enterprises are the state owned enterprise which are managed, controlled and owned by government to provide goods or services to the people at fair price. The ownership with the government should be 51% or more to make an entity PE. Public enterprises are usually autonomously organized with the government providing the initial capital and being responsible for contribution overview of their activities

finance and development. They are government creation with certain mission and objectives. However, control made by government, in every aspect of public enterprises is undesirable. They should have certain degree of freedom as well.

Public enterprises are established not only for commercial purpose but also for public welfare. They are strong means of socio-economic development of nation. So, they have to maintain proper balance between profits and services. Mainly, the exploitation of consumers and workers, the necessity of infrastructure development, defense structure, the utilization of natural resources, unemployment condition of the nation compelled the government to establish public enterprises.

According to Friedman “An institution operating a service of an economic or social character on behalf of the government but as an independent legal entity largely autonomous in its management, though responsible to the public through government and parliament and subject to some direction by the government equipment on other hand with independent and separate fund of its own and the legal and commercial attributes of a commercial enterprises”.

Public enterprises were established in developed countries in 18<sup>th</sup> century, where as in the developing countries, only after the Second World War. In context of Nepal, Nepal Bank Ltd. was established in 1994 B.S in private sector but after 2010 B.S it became first public enterprises in Nepal. During the Second World War, some other PEs were established. However they could not make any substantial progress. Nepal started its planned economic development from 2013 B.S. Then, the numbers of public enterprises have increased substantially in the various fields of national economy. There were 64 PEs in Nepal before privatization program of NG and now there are 37 public enterprises. NOC is one of the greatest public enterprises in Nepal.

### **1.3 Introduction of Nepal Oil Corporation Ltd. (NOC)**

Nepal Oil Corporation (NOC) was established in January 1970 by the Government of Nepal as a state-owned trading company to deal with the import, transportation, storage and distribution of various petroleum products in the country. NOC, headquartered in Kathmandu, has [five Regional Offices](#) and also Branch Offices, Fuel Depots and Aviation Fuel Depots with total storage capacity of 71,558 Kilolitres (KL) and around 600 employees.

Nepal is a land locked country bordering three sides by India and the northern part of snow fed Himalayas by Tibet/China. Nepal does not produce any oil and depends totally on imports in the refined form, as it does not have any oil refinery. NOC is the sole organization responsible for the import and distribution of petroleum products through around 1200 Tank Trucks and 1500 retail outlets owned by the private sector around all parts of the country.

Nepal is becoming more dependent on petroleum products for meeting its energy requirement. The demand of products like MS, HSD, SKO, ATF and LPG is about 1.2 million ton (MT) per annum with annual increase by 20%. Petroleum products constitute about 11% of total energy consumed in Nepal. The nearest port in India is Haldia(Kolkata) which is about 900 km from nearest international border. The transportation from nearest sea port to Nepal is the main constraint for import of POL from third country. All the petroleum products consumed in Nepal are procured and imported from Government of India (GOI) undertaking national oil company, i.e. Indian Oil Corporation Ltd (IOC) under a 5 years' Contract Agreement signed on 31st March 2007. NOC uplifts petroleum products as per its requirement from IOC's 6 nearest refineries and depots situated in eastern and northern part of India. The transportation from IOC locations to NOC depots and to retail outlets is done by Tank Trucks. To meet the increasing demand, a MOU between IOC and NOC for construction of cross border Petroleum Product Pipeline from IOC's depot (Raxaul) to

NOC's depot (Amlekhgunj) has been signed. The Detailed Feasibility Report (DFR) of the proposed pipeline has also been prepared and the construction/investment modalities are under discussion between the companies.

The highest policy making and controlling body of NOC is its Board of Directors. The Managing Director (MD) who is also member secretary of NOC Board has the overall responsibility for management and operations. The pricing of major petroleum products like MS, HSD, SKO and LPG needs approval from the Government of Nepal.

As energy is inevitable for development and prosperity, NOC is trying its best to cater this requirement as per the need of the emerging scenario. Though its hardworking to mobilize its institutional resources to tackle the energy problem, it has been facing various problems on this path. However, NOC remains committed to the supply of energy being socially responsible to the people.

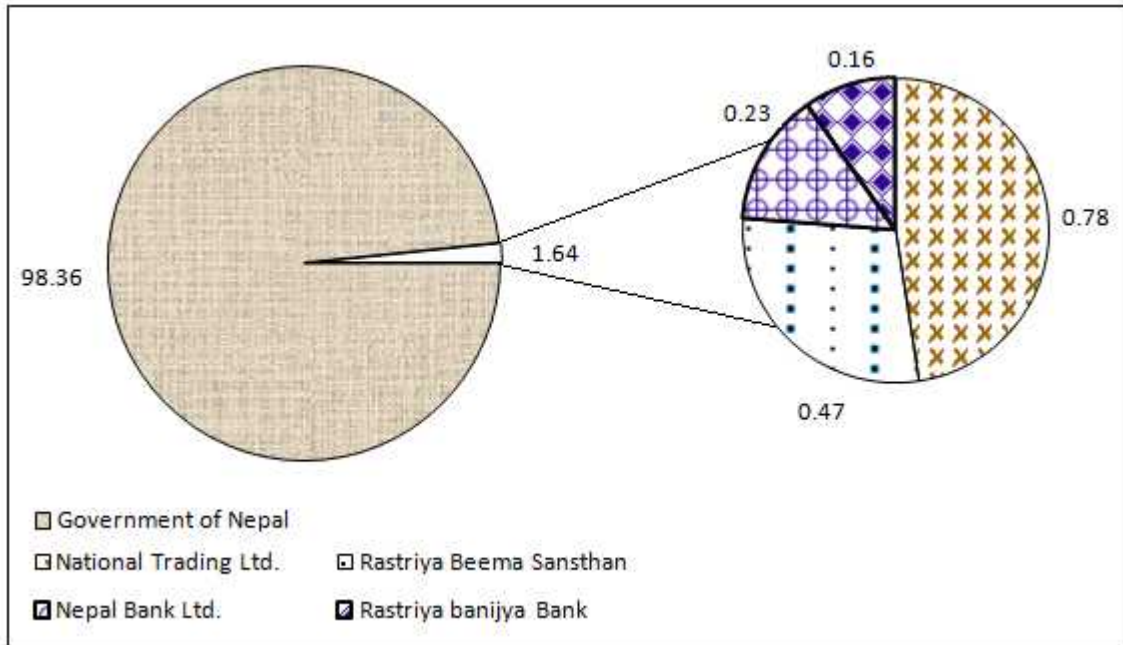
Though the government remains to be sole investor; other four public enterprises: National Insurance Corporation, Nepal Bank Ltd, National Commercial Bank and National Trading Limited have also invested in NOC. Authorized capital at the time of establishment was Rs. 10 million and paid capital was Rs. 1.05 million. The ownership of NOC can be shown as below:

**Table 1.1**  
**Ownership**

<b>Owners</b>	<b>Percentages</b>
Government of Nepal	98.36
National Trading Ltd.	0.78
Rastriya Beema Sansthan	0.47
Nepal Bank Ltd.	0.23
Rastriya banijya Bank	0.16
<b>Total</b>	<b>100</b>

*(Source: Corporate Profile of NOC, 2068/069)*

**Figure 1.1**  
**Ownership**



*(Source: Corporate Profile of NOC, 2068/069)*

Increasing road and air transportation and decreasing firewood fuels have led to the shortage of the energy. Further the speedy urbanization is also contributing to the high demand of fuels. NOC is facing problems to meet the gap between demand and supply which is further affected by the dwindling state of price of petroleum products in the international market.

#### **1.4 Statement of the Problem**

Being a developing country, Nepal has not been able to harness the petroleum resources available within the nation. Lack of technology, capital, human resources and other factors are responsible for this. Therefore, Nepal is fully dependent in foreign countries to meet the demand of this vital product. Being Land-locked has hampered its effectiveness in performance. Being a sole supplier of petroleum products, it has monopoly in the market but the service is being poor day by day.

Public enterprises of Nepal are in crisis and so the Government of Nepal is trying to move towards privatization process in a phase wise manner. NOC is also in crisis, for which various factors are responsible: weak management, poor coordination, poor motivation to human resources and lack of proper sales planning management.

NOC targets to meet the demand of petroleum products, for which proper sales planning is very important factor. As the population, vehicles and industries are multiplying in the nation, the demand of petroleum products is also increasing. At this verge, NOC has so many problems:

- ) What is the general trend of sales planning of Nepal oil corporation (NOC)?
- ) Is the sales planning and budgeting of Nepal Oil Corporation effective?
- ) What are the major problems for the formulation and implementation of sales plan?
- ) What measures can be taken to enhance the sales planning system?
- ) What are the effects of international market of petroleum products to the domestic markets Nepal?

### **1.5 Objective of the Study**

The specific objective of the study is to examine and assess the present planning system especially the sales planning system used by NOC. The major objectives of this study are highlighted as follows:

- ) To examine the sales planning practices of NOC.
- ) To assess procurement policy adopted by NOC.
- ) To analyze the problem and prospect of sales planning of NOC.

## **1.6 Significance of the Study**

Let alone Nepal Oil Corporation, many public enterprises of Nepal lack of proper sales planning. It is very important for both manufacturing and non-manufacturing enterprises to achieve their goals. It assists to manage the required quantity of goods, sales budget, marketing spots, inventory management etc. Most of the business organizations are set up for profit and this goal is realizable only through proper sales planning. Thus, sales planning needs to be formulated and implemented by every business organizations.

Sales planning is an important instrument for healthy financial performance of enterprises. It minimizes future risks, maximizes the outputs from scarce resources and predicts the future. It also assists the managerial decision making in business enterprises. This study will be beneficial for the following parties:

- ) Further researcher will get help from this research to do their research in future.
- ) Nepal Oil Corporation will get help to improve its sales plan.
- ) University students who will be conducting studies in same subject will be benefited from this research.
- ) Major parties, who are interested in sales planning of NOC, will find it as a valuable resource.
- ) Valuable suggestions and recommendations will serve the concerned parties while making sales plan.

Thus, this research will be a valuable means to know about the sales plan of NOC and its controlling system. People who are interested in these aspects of NOC will be beneficial from this research. Further the deteriorating condition of NOC could be prevented to reinvigorate NOC through making proper sales plan and controlling mechanism recommended by the research.



## **1.7 Limitations of the Study**

In any investigation work, limitation may occur because investigator can't investigate the entire study area. Moreover, collection of data through primary sources for the study would have been next difficult work for an individual researcher for various reasons. Therefore, factors which are limiting of the study are as follows:

- ) This study covers only five years' annual reports (from 2064/65 to 2068/69), trends and data.
- ) This study is concerned with the problems and sales trend of Nepal Oil Corporation.
- ) Secondary data granted by the management of Nepal Oil Corporation is the main source of data for this study.
- ) Primary data have been collected from the staff of NOC and from the public.

## **1.8 Organization of the Study**

The organization of the study has followed five separate chapters which are as follows:

### **Chapter I**

This Chapter includes general background, statement of the problem, objectives of the study, Significance of the study, limitation of the study and organization of the study.

### **Chapter II**

This chapter is directed towards the review of literature of related studies. It contains conceptual review of major studies related with this research.

### **Chapter III**

This chapter describes the research methodology employed in the study. It includes research design, population and samples, sources of data, data collection techniques and data analysis tools.

#### **Chapter IV**

This chapter deals with the presentation and analysis of different data. Collected data are presented with necessary analysis using proper tools.

#### **Chapter V**

This chapter states summary, conclusion and recommendations of the study.

Beside this chapter, appendix and bibliography have been included in this research paper.

## **CHAPTER - II**

### **REVIEW OF LITERATURE**

Review of literature is a process of learning and understanding the concept of the related literature thoroughly. Literature review helps to understand and develop the progress made by the earlier scholars on the concerned topics or field of study. It also helps the researcher in generating new idea and gets thought generating views about the research work undertaken by him/her. The objective of review of literature is to provide knowledge about the background of the work done by the earlier researcher. It also helps to find out the lack in the earlier research work and to avoid the duplicity of the previous work.

This chapter has been divided in two sections: section (a) deals with conceptual review and section (b) deals with research review.

#### **2.1 Conceptual Review**

##### **2.1.1 Sales Plan and Budget**

Plan is the detail proposal for doing or achieving something, whereas planning is one of the functions of management accounting in which plans for the future activities and operation of an organization are incorporated into its budgets, etc. Budget is a financial or quantitative statement prepared prior to a specified accounting period, containing the plans and policies to be pursued during that period. It is used as the basis for budgetary control. Generally a functional budget is drawn up for each functional area within an organization, but in addition it is also usual to produce a capital budget, a cash-flow budget, stock budget, and a master budget, which includes a budgeted profit and loss account and balance sheet (Oxford dictionary of Business & Management, 2009:76). A sales planning is the first step of master budgeting. It displays the projected sales in unites and rupees. It provides an estimate of goods to be sold and revenue to be realized from the sale of goods and services (Goet & Shah,

2012:05). The sales planning process is necessary part of profit planning and control because: (a) it provides the basic management decisions about marketing and (b) based on those decisions, it is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic, most of the other parts of the overall profit plan also are not realistic. Therefore, if the management believes that a realistic sales plan cannot be developed; there is little justification for profit planning and control. Despite the views of a particular management, such a conclusion may be an implicit admission of incompetence. Simply, if it is really impossible to assess the future revenue potential of a business, there would be little incentive for investment in the business initially or for continuation of it except for purely speculative ventures that most managers and investors prefer to avoid (Welsch, et al., 2000:103).

Sales budget are the another essential management tools. They allot the potential market (after serious market study) to territories or systems of selling. They set up quotas to salesman so as to assure that all selling forces contribute their proper share of activity. Throughout this, adequate control of performance of all members of the organization is retained. Practically all other budget is based on the sales budget. In some cases, the sales budget is also a tool to find the sales help and the promotion or advertising needed.

A plan of operations must necessarily be built around the activity or volume of business that can reasonably be expected during the specific period covered by the profit plans. Unless there is a realistic sales plan, practically all other elements of a project plan will be out of kilter with reality. The sales plan is the foundation for periodic planning in the firm, because practically all other enterprise planning is built on it. The primary source of cash is sales; the capital additions needed the amount of expenses to be planned, the manpower requirements, the production level and other important operational aspects depend on the volume of sales.

In this way, sales budget is the major factor or primary factor of all other budgeting system and organizational activities. Sales budget is the very important for each and every organization, they may be manufacturing and non-manufacturing without proper sales budget organization cannot make the other budget, like purchase, expenses etc.

A reasonable degree of accuracy is frequently hard to achieve in sales budget but it is imperative owing to the dependency of other budgets on sales budget. In case of degree of accuracy is not large, some of the other predetermined figures, particularly the production estimates will be based on erroneous premises which may have serious consequences for the business. The necessary for accuracy has hastened the abandonment of the method. No method will ensure absolute accuracy but reasonable current forecasts are more likely to result from market research and analysis and application of this knowledge of the individual circumstances of a particular business. The preparation of a sales budget is always difficult even in cases where much experience has been gained by carrying out work over a number of years. Through such factors as experience, wise judgment, knowledge of market trends and business conditions are of almost help, they have to be used with great care and sometimes, even these are useless due to the development and operation of circumstances as well as events which were impossible of prediction at the time, sales estimate were made.

### **2.1.2 Purposes of sales plan:**

Sales plan is the starting point in preparing profit plan. It is the forecast of future sales of a company. It is a detailed schedule showing the expected sales for coming period. These sales are usually expressed in both sales quantity and sales amount. The Primary purposes of sales plan are:

- ) To reduce uncertainty about future revenues.
- ) To incorporate management, judgment and decision into the planning process.

- ) To provide necessary information for developing other elements of comprehensive profit plans.
- ) To facilitate management control of sales activities.
- ) To plan for future marketing expenses and arrange for manpower needed.

### **2.1.3 Sales Planning vs. Sales Forecasting**

Sales planning and forecasting are often confused. Although related, they have distinctly different purpose. A forecast is not a plan, rather it is a statement or a quantified assessment of further conditions about a particular subject (e.g., sales revenue) based on one or more explicit assumptions. A forecast should always state the assumptions upon which it is based. A forecast should be viewed as only one input for the development of a sales plan. The management of the company accepts, modify or reject the forecast. In contrast, a sales plan incorporates the management decisions that are based on the forecast, other inputs and management judgment about such related items as scales volume, price, sales, efforts, production and financing. A sales forecast is converted to a sales plan when management has brought to bear management judgment, planned strategies, commitments of resources, and the managerial commitments of resources, and the managerial commitment to aggressive action to attain the sales goals. In contrast, sales forecasting is a technical staff function.

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. Moreover, the influence of management actions on sales potentials is difficult to quantify for sales forecasting. Therefore, the elements of management experience and judgment must mold the sales plan. Another reason for identifying sales forecasting as only one step in sales planning is that sales forecasts are conditional. They normally must be prepared prior to management decisions or plans in such areas as plant

expansion, price changes, promotional programs, production scheduling, expansion or contraction of marketing activities, and other recourse commitments. The initial forecasts – and there should usually be more than one to indicate probable sales under various alternative assumptions – are an important source of information in the development of managerial strategies and resources commitments (Welsch, et al., 1999:173).

When the leader of an organization says that he would like a forecast, what he often means is that he wants a plan. He wants to make something happen, and he uses this plan as a target for people in his organization (Armstrong, 1978:05).

Table 2.1

The differences between sales forecast and sales budget can be attributed as:

S.N	Sales Planning	S.N	Sales Forecasting
1	It is the projection approved by the budget committee that describes expected sales in units and rupees.	1	It is merely the initial estimate of future sales.
2	It is the quantitative expression of business plan and policies to be pursued in future.	2	It is a merely well educated estimate of future expected demand of a specific product
3	It provides standard for comparison with the result achieved, thus, it is an important control device of management	3	It represents merely a probable event over which no control can be exercised.
4	It begins where and when sales forecast end. sales plan is the foundation of profit and control	4	It is the input to sales plan.

(Source: Goet & shah, 2012:08)

## **2.1.4 Methods of Sales forecasting**

Method of projecting sales may vary with nature of organizational structure of the business, environment in which business operates etc. In general, following methods can be used for forecasting sales in an organization (Goet & Shah, 2012:06).

### **2.1.4.1 Personal Judgment Method**

It is also known as a rule of thumb method or nonmathematical method or directorship method. In this method sales will be projected by the judgment of the management. Under this method, there are three techniques:

#### **A. Sales Force Composite Method**

Under this method sale is projected by the employees involving directly in the field of the marketing. On the basis of market observations, sales force project the sales and it is approved by the authority of the management.

#### **B. Sales Division Manager composite**

Under this method, forecast is made by sales department executive or division manager on the basis of collecting relevant information regarding product market situation. This method is based on the concept that the divisional managers have better idea about the market and they can evaluate market more closely based on information available sales force working in different part of market.

#### **C. Chief Executive Composite Method**

Under this approach, chief executive decides about the future projected level of sales. After receiving historical sales data from sales department and getting information from environmental scanning, chief executive uses his judgment to forecast the sales.

### **2.1.4.2 Mathematical and Statistical Method**

Under this method rule of mathematics and statistics are used to composite the sales. There are three well-known methods, which are as follows:



### A. Economic Rhythm Method

Under this method, sales are projected based upon economic rhythm i.e. movement of economy. Under this method, the entire economic factors that have a high influence on demand or sales of the product are analyzed. The historical sales are adjusted with the influences of economical factor for e.g. cycle variation, seasonal variation, price variation etc.

One example:

Table 2.2

Sales projection under rhythm method

Months	Historical sales	Cyclical variation	Adj. Sales	Seasonal variation	Adj. Sales	Price Variation	Bud Sales
Ref.	Input=1	Input=2	1*2=3	Input=4	3*4=5	Input=6	5*6=7
Jan.	100	0.95	95	0.25	24	1.50	36
Feb.	100	1.10	110	0.35	39	1.20	47
Mar.	100	0.80	80	1.00	80	1.10	88
Total	300	-	285	-	143	-	171

### B. Regression Method

Regression analysis concerned with the study of the dependence of one variable, dependent variable, on one or more other variable, the independent variable with a view to estimating the average value of the dependent variable from the known values of the independent variable (Acharya et al, 2067:366). It is widely used statistical technique. In this method, sales are projected by analyzing the relationship between independent (factor affecting the sales) and dependent (sales of the product) variable.

### C. Time Series Analysis

In this method, sales are forecasted on the basis of drawing a best-fit line of the past sales. Time series analysis attempts to forecast future value of time series by examining past observation of data. In this, assumption is made that, the series will continue to more as in the past.

### **2.1.5 Strategic and Tactical Sales Plans Compared:**

In harmony with a comprehensive profit plan, both strategic long-term and tactical short-term sales plans must be developed. Thus, the usual case is a five – or ten – year strategic sales plan and a one-year tactical sales plan. Many sales and product decisions commit a large amount of resources involving a life span of many years. Basic strategies and major decisions that involve commitments of resources and long life spans are difficult to stop.

Sometimes it may be helpful to view the development of the long-range and short-range sales plans as separate activities. However, they must be integrated because the short-range sales plan should dovetail with the strategic long-range plan in all major respects (Welsch, et al., 1999:173).

#### **2.1.5.1 Strategic sales plan:**

As a practical approach, a company may schedule completion of the strategic long-term sales plan as one of the first steps in the overall planning process. For example, a company operating on a calendar year may complete a long-term sales plan, at least in tentative form, by the end of July because this gives sufficient lead time for interim considerations essential to development of next year's comprehensive short-term profit plan during the latter part of the preceding calendar year. Long-term profit plans are usually developed as annual amounts. The long-term sales plan uses broad groupings of products (product lines) with separate consideration of major and new products and services. Long-term sales plans usually involve in depth analysis of future market potentials, which may be built up from a basic foundation such as population changes, state of economy, industry projections and finally company objectives. Long-term managerial strategies would affect such areas as long-term pricing policy, development of new product line, innovation of present products, new direction in marketing efforts, expansion of distribution channel, and cost patterns.

The influence of managerial strategy decisions is explicitly brought to bear on the long-term sales plan primarily on a judgmental basis.

#### **2.1.5.2 Tactical Sales Plan:**

A common approach used for short time horizons in a company is to plan sales for twelve months into the future, detailing the plan initially by quarters and by month for the first quarter. At the end of each month or quarter throughout the year, the sales plan is restudied and revised by adding a period in the future and by dropping the period just ended. Thus, tactical sales plans are usually subject to review and revision on a quarterly basis. The short-term sales plan includes a detailed plan for each major product and for grouping of minor products. Short-term sales plan are usually developed in terms of physical units (or job) and in sales and/or service dollars. Short-term sales plans must also be structured by marketing responsibility (e.g., by sales districts) for planning and control purposes. Short term sales plans may involve the application of technical analysis; however, managerial judgment plays a large part in their determination.

The amount of detail in a tactical sales plan is a function of the company's environment and characteristics. A short-range sales plan should include considerable detail, whereas a long-range sales plan should be in broad term. To establish policy about detail in the short-range sales plan, the main question is use of the results. First, the major consideration is to provide detail by responsibility for planning and control purposes. Second, the short-range sales plan must provide detail needed for completing the profit plan components by other functional managers. That is, the production managers will need sufficient detail for planning production levels and plant capacity needs; the financial manager will need sufficient detail for assessing and planning cash flows, unit product cost, inventory needs, and so on. Third, the amount of detail also depends on the type of industry, size of the firm, availability of resources, and use of the results by management.

### 2.1.6 Components of Comprehensive Sales Planning

A comprehensive sales plan should satisfy the requirement of, and be consistent with, the overall comprehensive PPC program. The components of comprehensive sales planning are listed below:

**Table 2.3**  
**Components of Comprehensive Sales Planning**

Component	Strategic plan	Tactical plan
1. Mgmt. policy and assumption	Broad and general	Details and specific for the year
2. Mkt. plan (sales and services revenue)	Annual amounts major groups	Detailed by product and responsibility
3. Advertising and promotional plan	General, by year	Detailed and specific for the year
4. Distribution (selling) expenses plan	Total fixed and total variable expenses by year	Fixed and variable expenses by month and by responsibility

*(Source: Welsch, et.al. 1998:176)*

### 2.1.7 Steps for Developing Comprehensive Sales Planning

Welsch, Hilton and Gordon suggested five steps for developing a comprehensive sales plan:

#### **Step 1 – Develop Management Guidelines for sales planning**

All management participants in the sales planning should be provided with specific management guidelines to be followed in sales planning. Fundamentally, these guidelines should specify sales planning responsibilities. The purpose of these guidelines is to attain coordination and uniformity in the sales planning process. The guidelines should emphasize enterprise objectives, goals, and sales strategies. The guidelines also should direct attention to such areas as product emphasis, general pricing policies, major market thrusts, marketing strategies, and competitive position.

## **Step 2 – Prepare Sales Forecasts**

One or more sales forecasts should be prepared. Each separate forecast should use different assumptions, which should be clearly explained in the forecast. The management guidelines should provide the broad assumptions. The forecasts should include strategic and tactical forecasts that are consistent with the time dimensions used in the comprehensive profit plans. Forecasting methods are broadly classified as:

- a) Quantitative
- b) Technological
- c) Judgmental

These forecasting methods include time-series smoothing, decomposition for time series, advanced time series, simple regression, multiple regression, and modeling.

## **Step 3 – Assemble Other Relevant Data**

In addition to steps 1 and 2, all other information relevant to developing a realistic sales plan should be collected and evaluated. This information should relate to both constraints and opportunities. The primary constraints that should be evaluated are:

- a. Manufacturing capacity
- b. Sources of raw materials and supplies, or goods for resale
- c. Availability of key people and a labor force
- d. Capital availability
- e. Availability of alternative distribution channels

These five factors require evaluation and coordination among the heads of the various functional areas in developing a realistic sales plan.

## **Step 4 – Develop the Strategic and Tactical Sales Plans**

Using the information provided in steps 1, 2, and 3, the management develops a comprehensive sales plan. To do this, the planning process must be structured to maximize (a) motivation of the sales force and (b) realism in the sales plan. This process should recognize the importance of management goals – both strategic and

tactical. For both the behavioral motivation and judgmental imperatives, the process should involve participation by the sales managers from the bottom up to the fullest extent possible. When it is feasible, salespersons who deal directly with customers should participate because they are often able to obtain relevant information from the customers about their future purchasing plans and competitive pressures. This means that all participants should be provided information relevant to their participative role that was generated in steps 1, 2, and 3. Extensive participation by middle and lower level managers is more appropriate and useful in developing the tactical (short-term) sales plan than in developing the strategic (long-term) sales plan. The latter should primarily involve top-management participation.

The process of developing a realistic sales plan should be unique to each company because of the company's characteristics - its products, its distribution channels, and the competence of its marketing group. Four different participative approaches are widely used and characterized as follows:

1. Sales force composite (maximum participation)
2. Sales division managers' composite (participation limited to managers only)
3. Executive decision (participation limited to top management)
4. Statistical approaches (technical specialist plus limited participation)

### **Step 5 – Secure Managerial Commitment to Attain the Goals Specified In the Comprehensive Sales Plan**

Top level management must be fully committed to attaining the sales goals that are specified in the approved sales plan. This commitment requires full communication to the sales managers of the goals, approved marketing plan, and strategies by sales responsibilities. The commitment must be strong and ever present in day- to-day operations.

### **2.1.8 Consideration of Alternatives in Developing a Realistic Sales Plan**

Developing a realistic sales plan involves consideration of numerous policies and related alternatives and a final choice by executive management among many possible courses of action. Important decisions must be made about such issues as a product, discontinuance of present products, pricing, expansion or contraction of sales areas, size of sales force, new distribution channels, distribution cost limitations, and advertising and other promotional policies. A realistic sales plan includes a complex set of interrelated management decisions.

In addition to advertising expense, selling expense, and marketing plans, a completed sales plan encompasses work programs and organization for sales effort and a host of other coordinative understandings necessary for efficient and aggressive efforts to maximize sales revenue at minimum cost. Many combinations of emphasis are possible. This suggests the importance in sales planning of applying standard approaches to the fullest extent possible and use of computers for data processing and analyses. It also implies numerous subjective judgments and decisions by management. The standard analyses, techniques, and approaches provide more relevant information than otherwise upon which these managerial judgments and decisions are made under conditions of uncertainty. To the extent that the standard approaches shed additional light on the probable outcomes of different alternatives, they contribute to the quality of management's decisions by reducing uncertainty.

For illustrative purposes, it will consider two pervasive sales planning problems: (a) price-cost-volume alternatives and (b) product-line alternatives

#### **2.1.8.1 Price-Cost-Volume Considerations in Sales Planning**

Price-cost-volume strategy is a vital part of sales planning. In a competitor market, price and sales volume are mutually interdependent. Because sales volume and price are so closely tied together, a complicated problem is posed for the management of

almost every company. Thus, two related basic relationships, involving the sales plan must be considered: (1) estimation of the demand curve, that is, the extent to which sales volume varies at different offering prices; and (2) the unit cost curve, which varies with the level of productive output. This price-cost-volume relationship has a significant impact on the managerial strategy that should be adopted.

### **2.1.8.2 Product-Line Considerations in Sales Planning**

Determination of the number and variety of products that a company will plan to sell is crucial in the development of a sales plan. Both the strategic and tactical sales plans must include tentative decisions about new product lines' to be introduced, old product lines to be dropped, innovations, and product mix.

Product mix refers to the volume relationship among two or more products. For example, assume that 1,000 units of product R and 2,000 units of product S were sold and that the sales plan for the coming year calls for 1,200 units of product R and 1,800 of S. The total product units are 3,000 in each case; therefore, a change in sales mix is planned for next year. The products with the highest contribution margin per unit should be pushed to the extent that is realistic.

Assuming the long-range sales plan includes changes in product lines, with broad specification as to the timing of such changes, those changes anticipated for the coming year (the period for which the short-range sales plan is being developed) must be brought into sharp focus through management decisions and be included in the short-range plan. To develop the annual sales plan, top management must make decisions about product-line development and marketing activities. Policies must respond to such issues as the following: Which products will be pushed? When will the new product be available for shipment? Which products will be dropped and when? What quality and style changes will be made? What about "loss leaders"? These policy decisions about both the long-term and short-term sales plans will



usually have a major effect on plans in other areas of the company, such as plan capacity, financing, territorial expansion, and research.

A primary objective in sales planning should be to maximize profits in the long run rather than the short run. For example, certain short-run decisions may increase immediate profits but adversely affect profits in the long run. Thus, it can be seen that if care is not exercised, short-run decisions may be in conflict with long-term objectives (Welsch, et al., 1999:184).

### **2.1.9 Control of Sales and Related Expenses**

The development of, and top management commitment to, a realistic sales plan provides the foundation for effective control of sales efforts and distribution expenses. It has emphasized that the several components of the sales plan should specify management responsibilities because this is the basis for effective control.

Control in the sales function should be viewed as a comprehensive activity encompassing sales volume, sales revenue, promotion costs, and distribution expenses is viewed as one problem rather than as two separate and diverse issues. The top marketing executive has overall responsibility for control of the sales activities. Normally, sales quotas for salespersons should be consistent with the sales plan, although in some cases there may be temporary reasons for developing quotas for individual sales persons that are somewhat in excess of or, in other cases, somewhat below realistic expectations. However, in such cases the sales goals, expense budgets, and other objectives included in the sales plan should be realistic expectations. Control in the sales function, as in all other functions, is attained by management actions.

The sales goals (volume and dollar revenue), promotion plans (planned expenditures), and distribution activities (distribution expenses) are basic goals. These are relatively broad goals, which suggest the need for numerous short-term and specific standards

as part of the total control effort of the management. Examples of specific standards that may be used for sales control purposes are

- ) Number of calls per period per salesperson
- ) Number of new qualified prospects
- ) Number of new customers
- ) Dollars of direct selling expenses per salesperson
- ) Selling expenses as a percentage of sales dollars
- ) Average size of orders
- ) Number of orders not honored
- ) Number of order per call made
- ) Dollar sales quotas per salesperson per period

Effective control of selling activities also requires periodic performance reports by responsibility that includes both sales and expenses. Performance reports should normally be prepared and distributed on a monthly basis. However, certain critical sales activities (e.g., sales made) and problems may require weekly or even daily performance reports. Performance reports for the marketing function should be prepared by the financial executive's staff and distributed soon after the end of the period.

The performance report should be comprehensive for each responsibility center. For example, a sales district performance report should show:

- a. Performance in generating sales revenue
- b. Performance in controlling district distribution expenses
- c. Performance of other related activities under the direct control of the district sales manager.

The performance report should compare actual results with planned results and report the variation. Normally, the report should show both the period just ended and cumulative to date. Performance reports should be consistent with the pyramiding

principle. That is, the performance reports for the lowest level of management should report specific revenues and expenses by detailed classifications (products in the case of sales and nature in the case of expenses). For each higher level of management, the pyramiding effect requires summary performance reports that show totals by responsibility demonstration case, superior manufacturing company.

## **2.2 Development of Budgeting**

### **2.2.1 Budgeting**

Budgeting is the process of preparing a budget. A budget is a document or a collection of documents that refers to the financial condition and future plans of an organization (family, corporation, government), including information on revenues, expenditures, activities, and purposes of goal. In contrast to an accounting operating statement, which is retrospective in nature, referring to past conditions, a budget is prospective, referring to anticipated future revenues, expenditures and accomplishments. Of course, budgets always contain some information about past revenues and expenditures that is consistent with accounting records (Lee, et al, 2008:17).

### **2.2.2 Characteristics of Good Budgeting**

The characteristics of good budgeting are as follows:

- )] Budgets may be formulated for the organization as a whole or for any sub-unit.
- )] A good system of accounting is also essential to make the budgeting useful.
- )] A budget is a quantitative expression of a plan of action and aid to coordination and implementation.
- )] A good budgeting system should involve persons at different levels while preparing the budgets. The subordinates should not feel only imposition on term (Khan and Jain, 1993: 30-31).

### **2.2.3 Principles of Budgeting**

The principles of budgeting are as follows:

- )] The budget has to be prepared in terms of cash, both receipts and payment are made in cash.
- )] Budget should be prepared on an annual basis. This enables the authorities to review their financial position.
- )] The budget should draw a clear picture of the financial transition of the year.
- )] Budget estimates should be gross and net.
- )] Budget estimates shall be made on departmental basis.
- )] The budget is subject to rule of lapse that unspent portion of the budget shall not be diverted to any other purpose.

### **2.2.4 Essentials of an Effective Budgeting**

A successful and sound planning and budgeting system is based upon certain prerequisites. These pre-requisites represent management attitude, organization structure and management approaches necessary for the effective and efficient application of the budgeting system. The following are the essential aspects of a successful budgeting:

### **i. Sound Forecasting**

Business forecasts are the foundation of budgets; forecasts are discussed by the executives and when the most profitable combinations of forecasts are selected, they become budgets. The sound forecasting brings better results in the budgeting system. Hence, forecasts should be based on mere estimates or personal whims; these should be made by using most scientific and statistical methods and techniques.

### **ii. An Adequate and Planned Accounting System**

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

### **iii. Efficient Organization with Definite Lines of Responsibility**

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

### **iv. Formation of Budget Committee**

A budget committee receives the forecasts and targets in each department as well as periodic reports and finalizes the final acceptable targets in form of master budget and also approves the departmental budgets. Involvement of all executives is desired in order to make them emotionally committed.

#### **v. Clearly Defined Business Policies**

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

#### **vi. Availability of Statistical Information**

Since budgets are always prepared and expressed in quantitative terms, it is necessary that sufficient and accurate relevant data should be made available from accounting system alone and therefore they may be processed through statistical techniques.

#### **vii. Support of Top Management**

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

#### **viii. Good Reporting System**

An effective budgeting system also requires the presence of a proper feedback system. As work proceeds in the budget period, actual performance should not be recorded but it should also be compared with budgeted performance. The variations should be reported promptly and clearly to the appropriate level of management. The reporting system should be designed in such a way that along with variations, the causes for

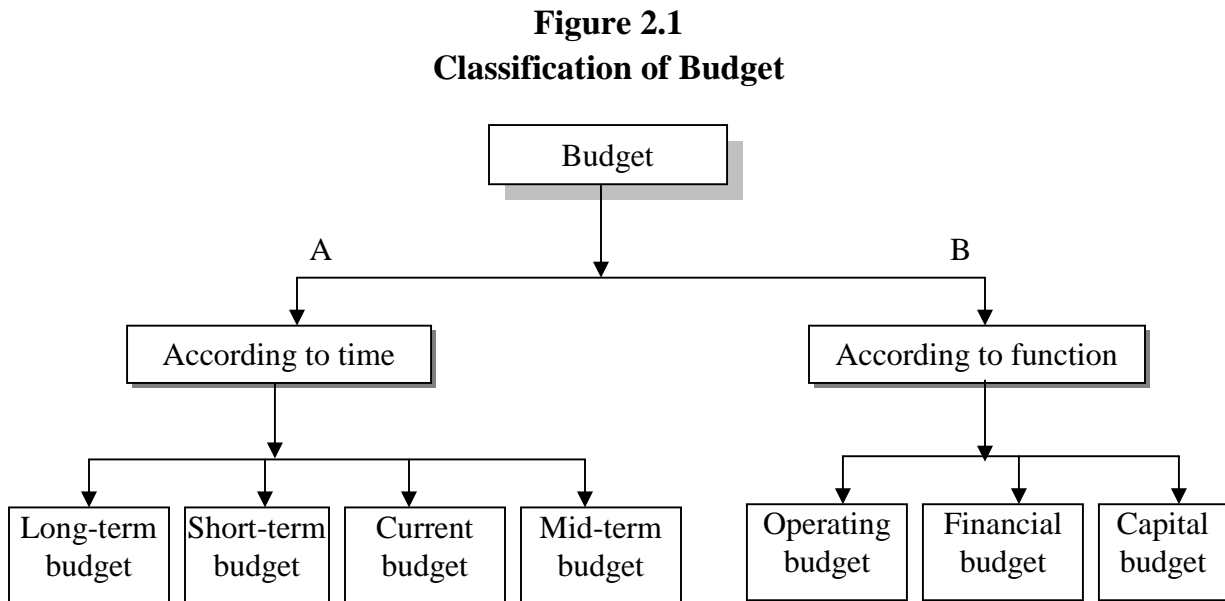
such variations and person responsible for them are also reported; so that management may decide suitable remedial.

### ix. Motivational Approach

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

#### 2.2.5 Classification of Budget

PPC is the systematic and formalized approach to accomplish planning. Coordination and control responsibilities of an organization are a comprehensive budget that includes normally two types of budget which are shown below:



## **A. Classification According to Time**

Budgets are classified into four major parts on the basis of time factor. They are;

### **1. Long-term Budget**

Long-term budget is known as strategic plan. Usually it is 5 or 10 years strategic or long-term budget. It requires depth analysis of future market potentials. It is broad and general. It is usually developed by year and annual amount. It is prepared on the basis of management established objectives, policies and strategies. Long term sales plan do not include detail plan. This is lump sum forecasting of sales. It is prepared by considering future market potentials, population changes, state of economy, industry projection and company objectives. These budgets are related to planning the operations of an organization expressed in physical quantities.

### **2. Short-term Budget**

Short-term budget is known as tactical plan. Usually it is of 12 months detailed by months and quarterly budget. Short-term budget includes detailed plan for each major products and for grouping products. For planning and controlling purpose, short-term budget must be developed by responsibility center. Because short term profit plan provides major consideration for planning and controlling purpose physical units or jobs and expressed in monetary terms.

### **3. Current Budget**

These budgets cover a period of one month or more. The short-term budgets are modified according to current conditions or prevailing situation.

### **4. Mid-term Budgets**

These budgets are drawn usually for a mid-period of whole budgeted years. It is also called intermediate amendment of term budget. These types of budgets are required to adjust the economic fluctuation on long term and short-term budget.



## **B. Classification According to Function**

Budgets are classified into three major parts of function. They are:

### **1. Operating Budgets**

Operating Budgets are the budgets that are related to the planning of operations of the enterprises, such as sales, production, purchase, inventory etc. Operating budget is composed of two parts: a program or activity budget that specifies the operations or function to be performed during the next year, and a responsibility budget that specifies plans in terms of individual responsibilities.

### **2. Financial Budgets**

Financial Budgets are concerned with the financial implications of the operating budget: the expected cash inflows and cash outflows, financial position and the operating results.

These budgets are connected with:

1. Search of and use of final capital i.e. cash budget.
2. Perform a financial statement i.e. balance sheet and income statement and statements of changes in financial position.

### **3. Capital Budgets**

These are the budgets which involve the planning to acquire the projects that requires large sum of funds and have long-term implications for the firm, together with the timing estimated cost and cash flows of each project. "Capital budgets are difficult to prepare because estimates of the cash flow over a long period have to be made which involve a great degree of Uncertainty".

## **2.2.6 Limitations of Budgeting**

### **i. Budget Plan is based on Estimates**

The success or failure of budget depends, to a large extent, upon the accuracy of basic estimates of forecasts. It should always be remembered that a certain judgment is always present in such estimate forecasts. These aspects of budgeting should always be kept in view while interpreting the results of others.

### **ii. There is a danger of Rigidity**

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

### **iii. Budgeting is not substitute for Management**

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

### **iv. Budget execution is Not Automatic**

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

### **v. Budgeting is a Costly Affair**

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

### **2.3 Method of Preparing Sales Budget**

Different kinds of methods are available to prepare the sales budget. Different enterprises adopt the different methods according to their financial position and quality of their manpower. Mainly the following four methods are used to prepare sales budget.

#### **I. Analysis of Past Sales**

Analysis of past sales for a number of years, say 5 to 10 years, viz. long-term trend, seasonal trend, cyclical trend, various other factors. The long-term trend represents the movement of the fortunes of a business over many years. The seasonal trend may affect many types of business and hence this factor must be taken in to account when studying figures for consecutive month over a number of years. The cyclical trend represents the fluctuations in the business activity due to the effect of the trade cycle. In order to study the cyclical trend it is desirable to disregard the effects of the long-terms and seasonal trends. Sundry factors include, such as a strike in the industry or a serious fire or flood. From such analysis it will be possible to suggest future trends. In analyzing such sales, considerable help can be obtained from statistical report produced by the trade units and commercial intelligence units, government publication etc.

#### **II. Field Estimate by Own Sales Staff**

The salesman in each area should have an intimate knowledge of the factors likely to affect his sales in the next few months or years. He can probably make a guess about the unsold stock in the shops of his customer. He is then in a position to make an estimate of future sales. When such estimates are available for a number of years, the actual sales for the year can be compared with the estimated sales and a correction factor calculated to allow for each salesman's tendency to overestimate.

### **III. Analysis of the Potential Market**

Market research people may report on the state of the market, population on the state of the market, population in area, fashion, trend, the types of product design of people, activities of competitors, and the prices the consumers are likely to pay.

### **IV. Studying the Impact of Factors Affecting Sales**

Any changes in the company policy or methods should always be considered. For example, introduction of special discounts, special salesman, a new design of the product, new or additional advertising campaigns, improved deliveries, after sales service should have some market effect on a sales budget. While preparing such forecast, the sales manager must consider the opinion of divisional managers and other sales staff, the budget officer and the accountant. It will be observed that the preparation of a sales budget involves many factors on cells for a high degree of knowledge of conditions, and of ability to deduce from the known facts and various estimates, the probable courses of sales over the budgeted period. If sales be the principal budgeted factor, then the sales budget is prepared first. If purchase is the key factor, the merchandise purchase budget should be built up first and the sales budget must be drawn up within the limits imposed by the purchase budget.

#### **2.4 Planning Sales in a Nonmanufacturing Company**

Typically a nonmanufacturing enterprise (e.g., wholesale and retail) purchases and sells a number of dissimilar products that vary in major ways, such as usage, size, weight, price, style, and service required (think of a large department or grocery store). Because of this diversity in characteristics of items sold, planning focuses more on dollars than on units.

##### **2.4.1 The Merchandise Budget**

The term merchandise budget is used in nonmanufacturing companies. It usually includes planning of sales, inventory, markdowns, employee discounts, stock

shortages, purchases, and gross margins. The sales plan is the first merchandise budget in a nonmanufacturing company. Two different approaches are used to plan sales, depending on the characteristics of the company. The two approaches are:

**i. Unit –price approach**

First the units to be sold and the unit sales price for each product are planned. This is identical with the approach discussed earlier for manufacturing enterprises. This method is practical when (a) the number of product lines is small, and (b) the selling price is relatively high. For example, this approach usually would be practical for an automobile dealer (except for the parts operation).

**ii. Sales-dollar approach**

This approach plans sales in dollars only for each department. Sales department often are organized in retail enterprises by product lines (e.g., Women's clothes, men's clothes, sporting goods, shoes). This approach is used when (a) the number of product line is large, and (b) the selling prices across product lines vary significantly. In these cases it often is impractical to plan units and individual prices for all items.

Large and integrated retail business often use both methods because they have sales departments that meet the criteria for one approach and another departments that meet the criteria for the other approach.

**2.5 Sales Budget and Profitability**

Sales budget consist of detail marketing plan of revenue, plan related to various expenses and sales, among the all activities related to operation of the organization. A sale is only one activity which creates revenue but all other activities create expenses. Profit is excess amount of revenue over all types of expenses.

## **2.6 Behavioral Impact of Budgets on People**

Related to the issue of how to set budgetary expectation is the issue of how budgetary pressure affects people (Argyris, 1953:97-100). There is substantial evidence suggesting that supervisors often assume that budgets can be used as effective pressure devices to increase productivity. What supervisors often do not realize, however, is the behavioral effects of such budgetary pressure. One effect is that employees may consciously strive not to exceed budgeted performance in order to lessen the likelihood that the budgeted performance level will ultimately be set even higher. Moreover, employees often react to budgetary pressure by becoming tense, resentful, and suspicious of every new move management makes to increase productivity.

Another common reaction of people to budgetary pressure is to form informal groups. Such groups generally form gradually as employees realize that others also feel the budgetary pressure and that such pressure can be partially relived by discussing it with others in a group. In some situations, such groups become very cohesive and serve as a springboard for bringing grievances to management on a number of issues.

Other human reactions to budgetary pressure include (1) supervisors trying to place the blame on others when production problems emerge, (2) staff-line strife, such as when supervisors place blame on the budget people or production-control personal, (3) pressure that is allowed to build up with no healthy outlet, thereby reducing efficiency through distraction, nervousness, and so on.

A particularly damaging effect of budgetary pressure can result when people are continually made to feel as though they have failed in meeting the budgets. Such perceived failures often result in loss of interest in work, lower personal standards for achievement, loss of confidence, fear of new tasks or methods, lack of cooperation, and development of a critical attitude toward others.

Non-participative planning, secrecy in how standards are set, excessive stress, uneven reward systems and excessive emphasis on profit will generate increased negative motivation throughout a company. When such conditions prevail, employees (including middle and lower level managers) will adopt protective or defensive behavior tactics. This tactics include padding budgets, subtle attempts to "heat the system", decrease in product and service quality and covert information.

In a study of sixteen manufacturing companies, where the budget goals are "too tight" have negative effects on manager's job satisfaction, budgetary performance, and cost efficiency as compared with managers who reported having "about right" or "tight but attainable" budgetary standards (Kenis, 1979).

In case of a weak or unsophisticated management, techniques such as budgeting are frequently used as the "whipping boy". Obviously a technique by itself can do nothing, the manager using it determine its value. It is the individual manager who makes the behavioral mistakes, establishes unrealistic standards, and is inflexible. A key function of the manager is to positively motive people through enlightened leadership. The implication of this discussion is not that budgets cause trouble, but rather that management should be sensitive to the behavioral implications of budgetary pressure when implementing a budgeting program.

## **2.7 Product Line Consideration**

Petroleum crude of hydrocarbon is compound of hydrogen and carbon found deep under the earth surface and seabed. Petroleum products are obtained after refining petroleum crude in refinery. The following are some of the products recovered from refining the crude which we encounter them in our day to day life. NOC is selling these products by its dealers.

**a. Liquefied Petroleum Gas (LPG)**

It is a mixture of propane and butane in the ratio of 55:45 and mainly used as domestic cooking fuel. In Nepal "INDANE" (Indian Oil brand name) is being marketed which is compressed generally in 14.2 kg cylinder. During the course of crude refining the first product we get from the refinery are methane, ethane, Butane and propane. The first two products are used in chemical plants and the combination of the latter two is used as LPG.

**b. Motor Spirit (MS)**

Widely used in international automobile engines as fuel, motor spirit is commercially known as petrol. Its boiling point lies between 80<sup>0</sup> – 215<sup>0</sup>F. Indian Oil from where NOC gets its MS requirement bands MS in two categories namely 87 Octane and 93 Octane.

**c. High Speed Diesel (HSD)**

High speed diesel is used as a fuel in auto ignition engine in automobile or railway engines.

**d. Super Kerosene Oil (SKO)**

Generally known as kerosene, it is middle distillate white oil used mainly in illumination, burring of stoves for cooking and heating. Most of the people in rural area use it for lighting lamps. Flash point of kerosene is limited to 35<sup>0</sup>c minimum and the standard colors.

**e. Aviation Turbine Fuel (ATF)**

It is used as a fuel in aircraft with Turbine engines. It is highly refined kerosene prepared to meet the aircraft engine specification particularly the freezing point and the thermal stability.



#### **f. Light Diesel Oil (LDO)**

It is used as fuel oil is slow speed operating at around 500 pm. In comparison with speed diesel it has higher carbon residue and sulphur content. Color of this product is greenish black and is relatively cost effective product.

#### **g. Fuel Oil (FO)**

Fuel oil also named as furnace oil is very heavy petroleum product and used as fuel in the burner of industrial furnace, marine boilers and engines.

### **2.8 A Review of Previous Related Research Works**

#### **2.8.1 Concept**

Literature review is the study of past research that was conducted by previous researchers in selected area or topic of profit planning. The purpose of literature review is to find out what research studies have been conducted in the chosen field of study and what remains to be done? It provides the base for developing comprehensive theoretical framework from which hypothesis can be developed for testing. Literature review can be done by consulting library where there are all kinds of published materials, including thesis, business reports, government publications and other concerned articles and journals.

There are very few research papers concerning this particular topic i.e. sales planning and budgeting. Most of the students of account group have done the research in the topic of profit planning and control of different public and non-public enterprises. Some dissertations reviewed here are on the topics of sales planning and budgeting.

**Bhattari (2000)**, has submitted a thesis on the topic “*profit planning and control of Nepal oil corporation*” (NOC). This research of Mr. Bhattari highlights the applicability and effectiveness of profit planning in Nepalese public enterprises. In this research Bhattari has pointed out various findings and recommendations, which are as follows.

The major findings of this study are:

- 1) Corporation's objectives are controversial. There is conflict between profit and goals. Consequently the profit planning programs of this corporation is adversely affected.
- 2) NOC has not any objectives to create and maintain an optimum enterprise environment that maximize the interest and motivation of all employees.
- 3) There is no well developed system of performance evaluation for employees. No fair system of reward and punishment to employees on the basic of their work performance. No programs have been attention about fair working environment.
- 4) There is no well communication system. The commutations are limited only among the top level managers.
- 5) There is no well system in formulating and implementation of profit plans.
- 6) The purchase plan depends upon the sales plan but the plans are made in adhoc basic.
- 7) Corporation has no clear pricing system.
- 8) Pricing system of Nepalese public enterprises is not scientific. PEs adopts traditional pricing method. Usually, cost plus pricing method is applied to determine price, certain products are priced below cost as per NG circular. NOC following cross subsidies pricing policy as NG circular.
- 9) Current ratio of NOC is not satisfactory.
- 10) The concept of various analyses is completely ignored.
- 11) Corporation does not find, what are the main strengths and weaknesses of the corporations.
- 12) Utilizations of fund is not good, working capital has been decreased.
- 13) There is not any systematic and effective practice of profit planning so it is required to have a good knowledge about the concept of comprehensive PPC then they should equally implement this concept in real practice.

Mr. Bhattari has provided some major recommendation to improve the profit planning system of this corporation which is as follows.

- i. NOC must formulate clear out goals, objectives, policies, long term plan, strategic program etc. sales and purchase budget must be prepared on realistic responsible and committed to accomplish them within the specified period of time
- ii. There should be continuous follow of information among various level of management and various groups of employees. The goal and objectives and strategies of these enterprises should carefully be communicated to lower level management.
- iii. Proper motivation programs reward and punishment system must be conducted.
- iv. Planning department should be given adequate authority to decide and create new ideals to formulate various plans.
- v. The analytical tools and techniques should be alighted with the price of strategic planning.
- vi. There should be annual evaluation of the statement of the board objectives of the corporation by the executive committee.
- vii. The corporation must be involved all the management level personnel for preparation of corporations future planning.

**Baral (2004)**, has submitted a thesis on the topic "*profit planning and control of Nepal telecommunication (NTC)*". The main objectives of this study highlight the NTC in different aspects and analyze, examine and interpretation of various function budgets and financial positions of NTC.

The major findings of Mr.Baral are as follows:

1. Maximum plan of NTC is traditional adhoc basic.
2. Profit earned by NTC is not sufficient to make NTC self-reliance in its activity.

3. Budgets are prepared just to fulfill the formalities but these are not used effectively for the profit planning process.
4. NTC is not clearly forecast their transactions and not analysis about their variation, about actual transaction budgeted transactions.
5. Cash budget of NTC is not actual transaction based it is only tentative cash follow so it bearing cash deficit problem.
6. The capital expenses budget of NTC is very high.
7. The sales plan and achievement of the NTC is satisfactory to some extent.
8. Financial analysis shows all ratios are not so good position of NTC.
9. Internal auditing system of NTC is not active and effective.
10. There is lack of responsibility in employees in NTC.
11. Overhead expenses are all favorable of NTC in study period.
12. The manpower of NTC is not satisfaction because most of the qualified employees are only in the head office.

He has provided some major recommendations to improve the profit planning system of NTC are as follows.

- 1) The plan of NTC should be analyzed on the basic of performance of corporations' ability. Because maximum plan is based on adhoc base.
- 2) Installation capacity of NTC is not fully utilized but the demand of telephone line is higher. If installed capacity Is utilized, the operating expresses will go down.
- 3) Budget of NTC is not satisfactory and the various between actual and budgeted data is not analyzed. Therefore variation of data will be clearly analyzed.
- 4) NTC's main source of revenue is in I.S.D sector so it must improve its services in I.S.D sector to generate more profit.
- 5) Management of NTC should bring the effective programs of cast reduction and control.

- 6) The pricing system of NTC is not good. Ministry of information issues the pricing policy and communication so the real price of telephone billing is not fact. It must be changeable with market value.
- 7) General Managers or executives directions should be appointed for some long period and right person should be placed at right place.

**Shrestha (2007)**, has submitted a research about "*comprehensive budgeting process in public enterprises of Nepal*". For this study 'Dairy Development Corporation' a public enterprise has been taken into sample. The basic objective of this research has been to analyze the sales and promotion budgeting in DDC. The special objectives are as follows:

- ) To analyze the budgeting system of DDC.
- ) To analyze the profit planning process of DDC.
- ) To evaluate the financial performance of DDC.
- ) To interpret the trend of P/L.
- ) To provide valuable suggestions and recommendation for improvement of the planning system in DDC.

The major findings are:

- ) DDC has not practice of variation analysis.
- ) The actual sales are lower than BE sales on research period that means it has not considered BEP.
- ) DDC has been suffering the political pressure on employee's selection. Almost employees are appointed by the government directly rather than evaluation of candidate's ability.
- ) DDC has not separate planning department and planning expert.
- ) DDC has not collected all milks offered by farmers. It has not able to grant the loan to the farmer's requirement.

- ) The gap between actual production and actual sales is high.
- ) Only top level executives are involved in planning and decision-making task and lower level participation is not encouraged.
- ) There is no performance reporting system, so that reward and punishment would be given.
- ) A systematic cash flow plan has not been prepared.
- ) There is poor policy as to sales , production, inventory and materials budgets, attention towards cost structure and control programmers is not existed.

**Narayan (2007)**, has tried to investigate the "*Role of Sales Budgeting in the Profitability of Public Enterprise*". The major objectives of the study is to examine the techniques of sales budgeting as a major tool for profit planning applied by Dairy Development Corporation (DDC). Other objectives are:

- ) To examine the sales budgeting process adopted by DDC.
- ) To analyze the relationship between sales and profitability of DDC.
- ) To compare the performance status of sales budgeting system of DDC.
- ) To find out the cause of deviation on sales budget of DDC.

His major findings are:

- ) DDC does not have comprehensive profit plan based on the realistic expectation.
- ) DDC does not have long-term strategic sales plan.
- ) Lack of communication between high level and low level staffs.
- ) Sales forecasting is based on the personal judgments of top-level staffs.
- ) Actual sales are lower than budgeted sales.
- ) Lack of segregation of cost into fixed and variables.
- ) Rate of increase in cost is higher than the rate of change in sales.

On the basis of his findings, he has recommended the following facts:

- ) DDC needs to set the goals like profit margin, product, sales, etc.
- ) DDC needs to develop comprehensive profit planning and controlling techniques.
- ) A long-term plan needs to be developed with short-term plan as its subsidiary.
- ) Expert planners are required with separate planning department.
- ) DDC needs to emphasize on the production of subsidiary milk product rather than milk only.

**Paudel (2008)**, has tried to investigate the “*Sales Budgeting and Its Effectiveness*” in manufacturing public enterprises. The major objective of this study is to analyze the present sales planning system of Royal Drugs Limited (RDL). Other major objectives are:

- ) To analyze the sales budget prepared by RDL with theoretical prescription.
- ) To analyze the cause of sales fluctuation in different months and years.
- ) To study the relationship of sales plan with production plan, inventory and different overheads made by RDL.
- ) To study about variation between actual and budgeted sales.

His major findings are:

- ) Semi-average method shows the sales of RDL is in decreasing trend.
- ) There is no significant relationship between actual and target production.
- ) The relationship between profit and sales is very weak, even in some cases the company gets loss rather than profit.

On the basis of his findings, he has recommended the following facts:

- ) RDL needs higher sales to reduce the decreasing trend of loss. The possibility offer new medicinal product, discount of price. Incentive to wholesales, increase numbers of dealer, etc.
- ) They should make production target significant by applying past achievement production.

They should consider about better utilization of available labor, material, energy and other expenses to increase productivity. After modifying suggested thing, automatically RDL gets better productivity.

**Ghimire (2010)**, has tried to investigate the "*sales planning and budgeting practices of Public enterprises ( A case study of DDC)*". The main objectives of present study is to examine the techniques or approaches of sales budgeting as a major tools of profit planning system applied by the DDC and to test the achievement of planning. The major objectives are as follows:

- To examine the sales budgeting process adopted by DDC
- To analyzed the relationship between sales and profitability of DDC.
- To compare the performance status of sales budgeting system of DDC.
- To find out the cause of deviation on sales budget of DDC.
- To provide suitable suggestions and recommendations on the basis of study.

The analysis of primary and secondary data and information gathered from the management through observation, informal discussion and supplementary questionnaire, it become clear that Dairy Development Corporation was suffered form a number of internal and external problems. Due to various causes Dairy Development Corporation has been unable to prepare and implement Profit Planning and Control technique. Less participation of middle and lower-level employees and lack of expert manpower in major decision making and planning created the critical situation in the way of preparing and achieving the target effectively.



On the basis of the study, following major findings have been drawn.

1. DDC is not using special plans and specific objectives for the comprehensive profit plan. So, budgeting system was not based on systematic projection. Either it was unrealistic or over ambiguous.
2. Dairy Development Corporation followed short-term tactical sales plan rather than long term strategic sales plan.
3. Dairy Development Corporation didn't have separate planning development, these were lack of expert planner and planning was made on traditional basis. The responsibility of budgeting was given to account department but actual performance was measured by economics department, and these two departments did not have close coordination.
4. The top-level executives were only involved in planning and decision making and low level employee's participation was not encouraged.
5. There was inadequate delegation of authorities and responsibilities to planner. There was no effective communication between various departments related with planning and implementation, and high level and low-level management.
6. Sales and production of the DDC increased each year but the rate of growth was disproportionate.
7. There was no proper sales forecasting method. Sales forecasting were done on the basis of personnel judgment of high level mgmt of various responsibility centers
8. The actual sales were always lower than budgeted sales. There was positive correlation coefficient and positive regression equation (line) for budgeted and actual sales.
9. More than 75% of total sales revenue covered by sales of milk and less than 25% from other milk products.

10. There was no proper management to supply milk in urban areas, only 1833 sales booths and 43 sales centers were involved serving overall urban population of Nepal.

**Prajapati (2011)**, has tried to investigate the "*impact of Sales and Production Budget in profitability of Public Enterprises*". The main objective of the study is to analyze the sales and production budgeting along with analysis of supply system of Nepal Electricity Authority. Apart from above following are the other specific objectives.

- ) To examine the practice and effectiveness of sales budgeting and production budgeting in NEA.
- ) To identify the effect of sales and production budgeting on profitability of NEA.
- ) To evaluate the variation between budgeted and actual achievement of NEA.

The major finding of the study on the basis of collection and analysis of data are presented as below.

- ) NEA has a practice of preparing both strategic and tactical managerial budgeting but tactical short range plan is prepared for external purpose and strategic plan is prepared for internal purpose.
- ) The coefficient of variation and standard deviation of actual sales are less than budgeted sales. It indicates that budgeted sales are more variable than actual sales.
- ) There is positive correlation between budgeted and actual production but budgeted production is more variable than actual production.
- ) The trend line of actual sales and production is increasing but on the other hand trend line of actual profit is decreasing.
- ) Actual sales are less than actual production. It indicates that there are power losses in NEA.

- ) Higher standard deviation and coefficient of variation of actual profit than actual sales and actual production indicate higher variability and less consistency of actual profit.
- ) The regression analysis of actual sales and profit, and actual production and profit shows the negative figure of expected profit achievement.
- ) The multiple correlation coefficients show that the actual profit is less affected by the actual sales and actual production.
- ) NEA was unable to meet its BEP sales therefore it was at loss every year.
- ) NEA has a low contribution ratio and negative Margin of safety.

On the basis of her finding, she has recommended the following facts:

- ) NEA should try to increase the sales volume and should reduce the power purchase. It can be done reducing power leakage and wastage, establishing new plants and increasing the capacity utilization.
- ) NEA should prepare monthly sales budget which help to estimated sales revenue rightly a year budget.
- ) NEA should maximize its operating profit so as to survive in the future. Because authority operating under huge loss annually can't be afforded by government.
- ) NEA should effort to supply more electricity to the high revenue or more profit generating categories such as domestic, industrial, temporary supply, commercial and non-commercial. Tariff rate for water supply and irrigation, transport service, street light, bulk supply to India, temples should be revised in such a way by which NEA could cover operating cost at least.
- ) NEA should be considered cost volume profit relationship while developing the sales plan and strategy. To maintain BEP, NEA should be control its high fixed cost and variable cost and increase its sales revenue.
- ) NEA has both the Margin of safety and P/V ratio are low, so management of

NEA should think of the possibilities of increasing the selling price, provided it does not adversely affect the sales volume or reducing variable costs by bringing improvement in the manufacturing process

- J) Finally NEA should practice the approach of PPC scientifically and systematically only after considering, evaluating and analyzing relevant variables, factors, environments like PPC's all aspects, internal strength and weakness, external threats and opportunities, and only then sales and production budgeting becomes a reliable tool of profit planning and control in all public enterprises including NEA.

## **2.6 Research Gap**

A brief review of above mentioned dissertation, it is seen that most of the public enterprise are not operating effectively and they have also not applied the full concept of bates planning parties which is related on the major findings of their studies.

This study so would be of different values as its focuses on special areas of overall profit planning i.e. sales planning and Budgeting with special references to NOC a non-manufacturing enterprises.

It would be a significant step on knowing about the sales planning and budgeting in NOC and its problem and prospects of sales planning and budgeting. The study attempts to analyze the sales planning and budgeting practices of NOC. This study is very new in the field of researches related to profit planning and control.

# **CHAPTER - III**

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

The research methodology helps to tackle the problem of research in a systematic manner. This research has a major objective to analyze, assess and study the sales planning and budgeting of NOC. To meet these basic objectives, research methodology has been used as a guide to reach the destination. Major aspects of research methodology that are followed in cause of this dissertation are as follows:

### **3.2 Research Design**

Research design means definite procedures and technique to study the ways that contribute to the research work. It is an overall plan for the activities to be undertaken during the course of a research study. The research design serves as a framework for the study, guiding the collection and analysis of the data, the researcher instruments to be utilized, and the sampling plan to be followed. Thus it is a blue print specifying the method to be adopted for gathering and analyzing data.

#### **3.2.1 Descriptive Research**

Descriptive Research is conducted to assess the opinion, behaviors, or characteristics of the population and to describe the situation events occurring at present. The basic purpose of descriptive research is as follows:

- ) To collect the detailed factual information that describes existing phenomena of sales activities of NOC.
- ) To identify Problems or justify current conditions and practices of sales plan.

### **3.2.2 Analytical Research**

In the analytical research, the researcher has evaluated the primary and secondary data that is excerpted from NOC. The researcher has tried to analyze sales trends and planning.

### **3.3 Population and Sample**

All the government owned public enterprises (i.e all 37 public enterprises) are the population of the study and Nepal Oil Corporation (NOC) is the target population. Out of target population, a sales planning in NOC is the sample of study.

### **3.4 Sources of Data**

Primary as well as secondary data have been used in this study paper.

#### **3.4.1 Primary Data**

Primary data are based on questionnaire as well as unstructured dialogues with the executives and other staffs of NOC.

#### **3.4.2 Secondary Data**

Secondary data have been taken mainly from the published and unpublished articles, annual reports of NOC, sales budgets and plan of NOC, profiles of corporation, annual magazines and reports.

### **3.5 Data Collection Techniques**

A set of questionnaire was developed and distributed to the selected respondents. The questionnaire was distributed to various respondents personally. Additional information also has been collected from the respondents by personal interview at the time of opinion survey. Secondary data have been excerpted for website of NOC and annual magazine and reports.

**3.6 Data Analysis Tools**

Data collected from primary and secondary sources are managed, analyzed and presented in the required tables and formats. Such tables and formats are interpreted and explained wherever necessary. To analyze the collected data statistical tools such as mean, S.D, Correlation coefficient, coefficient of variation, Probable Error (PE) of the coefficient of correlation, Regression have been used as per need.

**3.6.1 Mean**

Mean, also known as arithmetic’s average, is the most common measure of central tendency and may be define as the value which can be got by dividing the total of the values of various items in series by the total number of items

It can be worked out as under

$$\text{Mean } \bar{X} = \frac{X_1 + X_2 + X_3 + \dots + X_n}{n}$$

Where,  $\bar{X}$  = the symbole used for mean  
 $\Sigma$  = summation,  $X_i$  = value of ith item  $X_i, I = 1,2,\dots,n$   
 $n$ = total number of items.

**3.6.2 Karl Pearson’s Coefficient of Correlation**

It is most widely used tool to measure the relationship between two variables. It is denoted by ‘r’. In this research work, the coefficient of correlation is calculated in order to examine relation between targeted and actual data in various items.

The basic purpose of computing coefficient of correlation is to justify whether the planned data significant for future activities or not and whether the actual data are far from targeted data or not. So, to find out the position of both targeted and actual data these tools can be used.

It is calculated by using following formulas:

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

where,  $x = X - \bar{X}$

$y = Y - \bar{Y}$

$r =$  Co-relation coefficient.

The value of correlation coefficient lies between +1 and -1, +1 denotes the perfect positive correlation, '0' denotes there is no correlation and '-1' denotes the negative correlation between the two variables i.e. actual and budgeted data.

### 3.6.3 Probable Error (PE) of the coefficient of correlation

P.E of 'r' is very useful in interpreting the value of 'r' and is worked out as under for Karl Pearson's Coefficient of correlation. It is calculated as

$$PE(r) = 0.6745 \frac{r}{\sqrt{n}}$$

Where  $r =$  correlation coefficient.

$n =$  number of items.

### 3.6.4 Standard Deviation (S.D)

It is the most widely used measure of dispersion of a series and is commonly denoted by the symbol 'σ' (Sigma). Standard deviation is defined as the square-root of the average of square of deviations. In the present context standard deviation is calculated to measure the deviation of actual sales and budgeted sales. It is worked out as under:

$$\text{Standard deviation} = \sqrt{\frac{\sum (X_i - \bar{X})^2}{N}}$$

Where,  $y = Y_i - \bar{Y}$

and  $\sqrt{\frac{\sum (Y_i - \bar{Y})^2}{n}}$



### 3.6.5 Coefficient of Variation (C.V)

It is define as mean sum of square of the variety values from the arithmetic mean. It is obtained by using the formula:

$$C.V = \frac{\sqrt{\frac{\sum x^2}{n} - \bar{X}^2}}{\bar{X}} \times 100\%$$

Where C.V. = Coefficient of Variation

$\sqrt{\frac{\sum x^2}{n} - \bar{X}^2}$  = Standard deviation

$\bar{X}$  = Arithmetic Mean

### 3.6.6 Regression Analysis

Regression is the determination of statistical relationship between two or more variable. The regression used in the study determine the statistical relationship between independent variable X ( i.e. Budgeted sales ) and dependent variable Y ( i.e. Actual sales). The basic relationship between X and Y is given by;  $Y_c = a + bx$   
Where,  $Y_c$  denotes the estimated value of Y for given value of X.

### 3.7 Research Variables

Mainly the research variables of this study are related with sales statement of NOC. Budgeted and actual sales in units, sales trend, and pricing trend are the research variables of this study.

### 3.8 Period Covered

The present study is undertaken for a period of 5 years i.e. FY (from 2064/065) to 2068/069).

## **CHAPTER - IV**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.1 General Introduction**

After collecting the data from various sources, it should be presented, analyzed and evaluated by using the different tools and techniques to find out the various aspects of the company. Data presentation and analysis is the main part of any research work. In other words, it is the heart of any research work. The data and necessary information are collected through primary and secondary sources. To analyze and examine the actual position of the company, statistical tools are used. Statistical methods like correlation between the different variables, trend of the budgeted sales and actual sales, standard deviation, coefficient and variation are used to find out the various aspects of the company.

For the application of profit plan, a company should prepare numbers of plans; one of them is a sales plan. Sales plan is the infrastructure of profit plan. Other plan of profit plan depends upon the sales plan. The prime objective of business is to earn net profit, so the first consideration of the sales plan must be made from the profit plan. Sales are the major source of revenue and cost.

Generally two types of sales budget and plan are prepared. The first is long-range sales plan and the second is short-range sales plan. NOC doesn't prepare the long-range profit plan and sales plan. Short-range sales budgeting and planning are not also clearly prepared. This study mainly focuses short-range plan. However, sales, imports and other related figure in units and amount are also presented and analyzed to know overall economic and sales trend for the purpose. This study covers the periods of five years from FY 2064/65 to 2068/69.

The main objectives of this study is to examine and analyze sales planning practice of Nepal Oil Corporation (NOC); similarly also tries to assess the impact of sales planning and budgeting of NOC. Other objective is to examine the problems and prospects of sales planning of NOC.

1. Analysis of Secondary Data
2. Analysis of the Primary Data

## **Part – I**

### **Analysis of Secondary Data**

This part is focused on the analysis and presentation of secondary data. The secondary data have been obtained from financial statements and other related newspapers. The available data have been tabulated and presented in graphs, charts and analyzed to reach the conclusion.

### **4.2 Sales Analysis**

Sales revenue planning is the foundation for planning in business organization. It is also the primary step in developing the overall budget procedure and it is the primary source of cash and all other functional budgets prepared on the basis of sales budget. If sales budgets are not realistic, all other budgets also will not be realistic.

In Nepalese public enterprises, the objectives are mainly social welfare and commercial, for fulfilling the social obligation. Basically, most of the public organization's objectives are social welfare. Profit is less important, at the same time there is also commercial obligation, and in this case the corporation should earn certain profit too.

In case of non-manufacturing public enterprises, there is not realistic sales plan. NOC fixes the sales for the coming fiscal year only. Every plan or profit plan should be prepared to fulfill the objective of the enterprises. There is not clear objective related

to sales plan. It depends upon the demand of consumers. Consumers are divided into domestic, commercial, non-commercial and industrial etc. Now it is worthwhile to present the corporation's previous sales performance and their budget. To know about sales trend of past and to forecast the possible future trend of the corporation, the following table and diagrams present the budgeted sales and actual sales achievement from the fiscal year 2064/65 to 2069/70.

**Table 4.1**  
**Budgeted and Actual Sales of NOC**  
**By period except LPG (In KL)**

<b>Details</b> <b>Fiscal Year</b>	<b>Budgeted Sales</b> <b>(x)</b>	<b>Actual Sales</b> <b>(y)</b>	<b>%</b> <b>Achievement</b>
2064/65	728900	630927	86.558787
2065/66	717300	712209	99.290255
2066/67	752650	916026	121.70677
2067/68	971250	995220	102.46795
2068/69	993650	1000313	100.67056
<b>Total</b>	4163750	4254695	102.18421
<b>Average</b>	832750	850939	102.18421

*Source: Corporate Profile of NOC, 2068/69*

In the above table, it can be seen that budgeted sales of petroleum product other than LPG are higher than actual sales in fiscal year 2064/65 and 2065/66. However, from the fiscal year 2066/67 to 2068/69 actual sales are higher than budgeted sales. But the deviation between the budgeted and actual sales is declining; it seems that the units forecasted by its management are becoming realistic.

**Table 4.2**  
**Budgeted and Actual Sales of NOC**  
**By period of LPG (In MT)**

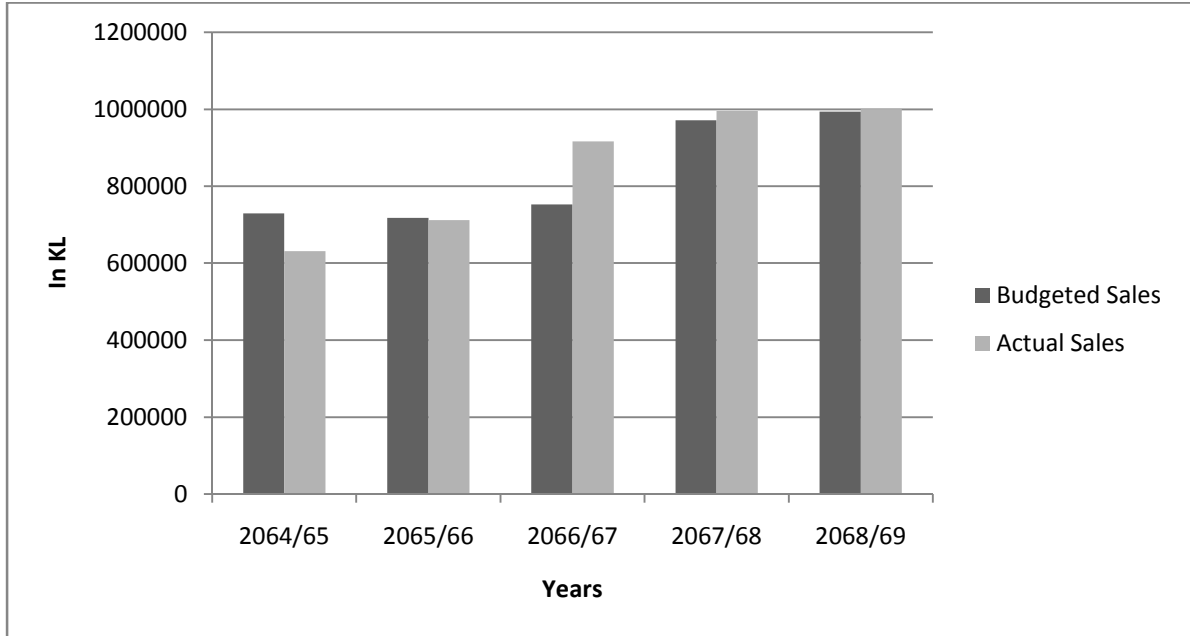
<b>Details</b> <b>Fiscal Year</b>	<b>Budgeted Sales</b> <b>(x)</b>	<b>Actual Sales</b> <b>(y)</b>	<b>%</b> <b>Achievement</b>
2064/65	96837	96837	100
2065/66	115813	115813	100
2066/67	141171	141171	100
2067/68	159286	159286	100
2068/69	181411	181411	100
<b>Total</b>	<b>694518</b>	<b>694518</b>	<b>100</b>
<b>Average</b>	138904	138904	100

*Source: Corporate Profile of NOC, 2068/69*

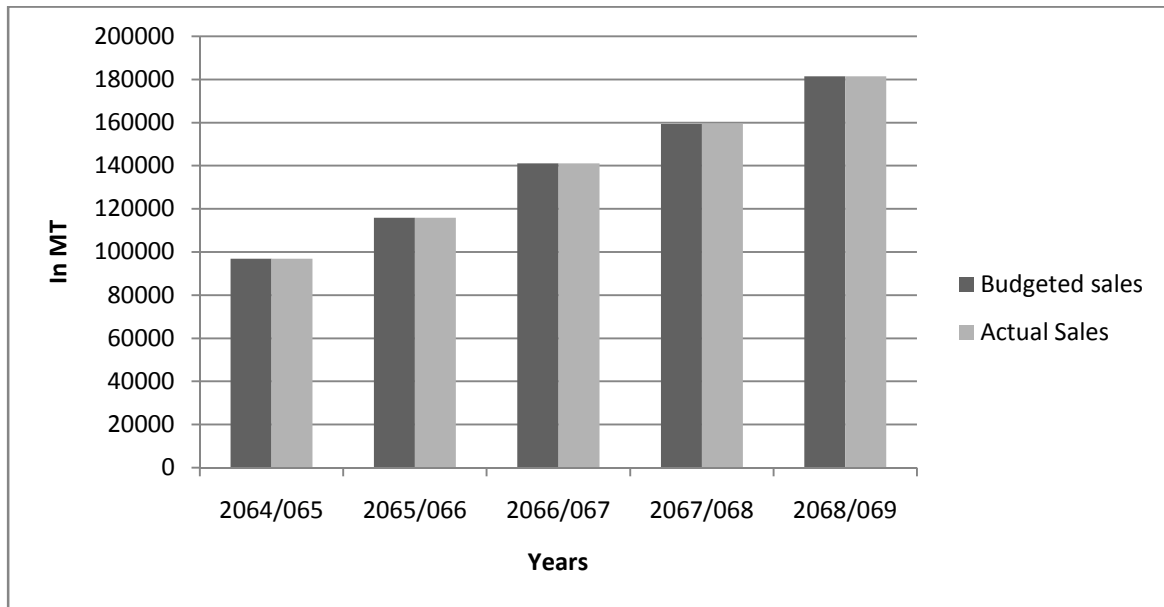
From the above table, it can be seen that budgeted sales and actual sales of LPG are same in the year 2064/65 to 2068/69. There is no any deviation between the actual and budgeted data in case of LPG.

There are not any systematic rules of preparing sales plan of NOC. The planning section of NOC prepares the next year's plan of the basic of last year's actual sales increasing by 15% to 20% per year. Budgeted sales are only on the assumption of management. On the other hand, NOC does not prepare sales plan in amount every year. The budgeted and actual sales of NOC can be personated from the following diagram.

**Figure 4.1**  
**Budgeted Sales and Actual Sales of NOC**  
**By time except LPG**



**Figure 4.2**  
**Budgeted and Actual Sales of NOC**  
**by time of LPG**



From the above figure it can be concluded that in the first beginning year 2064/65 to 2065/66 budgeted sales is higher than actual sales however in later year actual sales is higher than budgeted sales of the petroleum product other than LPG. In the year 2066/67 the demand of the petroleum product is raising unexpectedly i.e. the deviation between the actual and budgeted figure is highly deviated. However, in later year the deviation is less or decreasing. But budgeted and actual sales of LPG are perfect.

To find out the nature of validity of budgeted sales and actual sales of different years from 2064/65 to 2068/69 mean, standard deviation and coefficient of variation of budgeted and actual sales of NOC products is calculated. To find out the correlation between the budgeted and actual sales, Karl Pearson coefficient of correlation 'r' is determined for the purpose of calculation of 'r'. Budgeted sales (x) are assumed to be independent variables and actual sales (y) are assumed to be dependent variables. The correlation between x and y variables should be positive. To know the significance of the calculated value of 'r' it is calculated below:

**Table 4.3**  
**Standard Deviation, Coefficient of Variation and Correlation Coefficient**  
**between Budgeted Sales and Actual Sales**  
**by time except LPG (In KL)**

<b>Fiscal Year</b>	<b>Budgeted Sales (X)</b>	<b>Actual Sales (Y)</b>
2064/65	96837	96837
2065/66	115813	115813
2066/67	141171	141171
2067/68	159286	159286
2068/69	181411	181411
Mean ( $\bar{x}$ )	832750	850939
Standard Deviation ( $\exists x$ )	122963.89	151668.856
Coefficient of variation (C.V)	0.14766003	0.17823705
<b>Correlation Coefficient (r)</b>	<b>0.832913814</b>	
<b>Probable Error (P.E)</b>	<b>0.092380337</b>	
<b>6 × P. E.</b>	<b>0.55428202</b>	

*Source: Appendix I*

The above analysis shows that budgeted sales are less variable than actual sales. The standard deviation of actual sales is greater than budgeted sales by 28,705KL. It means that budgeted sales are more consistent than actual sales. The calculated mean of actual sales is higher than budgeted sales. Average budgeted sales of petroleum product is 8,32,750 KL except LPG, Where actual sales is greater by 18,189KL. The C.V. of actual sales is higher than budgeted sales. Higher C.V indicted more variable of data than lower C.V. Therefore, it is conceded that variability of actual sales in NOC is high.

The significant of 'r' can be tested by the help of probable error of 'r'. The detail calculation of 'r' and probable error is presented in above table. Calculated value of 'r' is 0.832913814. The calculated value of 'r' shows there is positive correlation between budgeted sales and actual sales. Since the value of 'r' is 0.832913814, which is near to



1 it indicates that there is highly positive correlation between budgeted sales and actual sales. The significant of 'r' is tested by the help of probable error of 'r'. Probable error of 'r' =0.092380337. Since  $r > 6 |P.E (r)$ , then r is significant.

**Table 4.4**  
**Standard Deviation, Coefficient of Variation and Correlation Coefficient**  
**between Budgeted Sales and Actual Sales**  
**by time of LPG (In MT)**

<b>Fiscal Year</b>	<b>Budgeted Sales (X)</b>	<b>Actual Sales (Y)</b>
2064/65	728900	630927
2065/66	717300	712209
2066/67	752650	916026
2067/68	971250	995220
2068/69	993650	1000313
Mean ( $\bar{x}$ )	138903.6	138903.6
Standard Deviation ( $\exists x$ )	30100.62	30100.62
Coefficient of variation (C.V)	0.21670151	0.21670151
<b>Correlation Coefficient (r)</b>		<b>1</b>
<b>Probable Error (P.E)</b>		<b>0</b>
<b>6 × P. E.</b>		<b>0</b>

*Source: Appendix II*

The average purchase of LPG per year is 138903.6MT which is exactly to budgeted purchase. Since budgeted purchase and actual purchase are exactly equal the standard deviation for both budgeted and actual sales of LPG are also equal. The average deviate quantity in past five year is 30100.62MT. C.V of both budgeted and actual sales are equal. Since C.V of both budgeted and actual sales are equal correlation coefficient (r) is perfectly positive i.e 1.

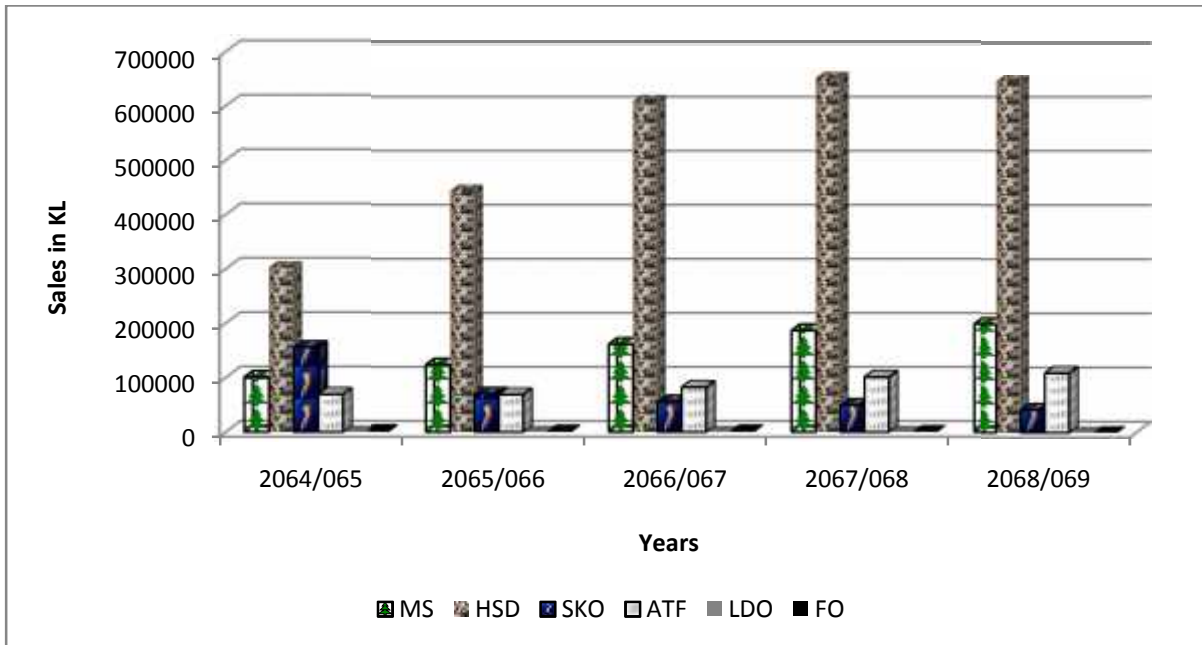
The significant of 'r' is tested by the help of probable error of 'r'. We have probable error of 'r' =0. Since  $r > 6 |P.E (r)$ , then r is significant.

**Table 4.5**  
**Budgeted Sales and Actual Sales of NOC**  
**By Product and by Time** [in KL except LPG]

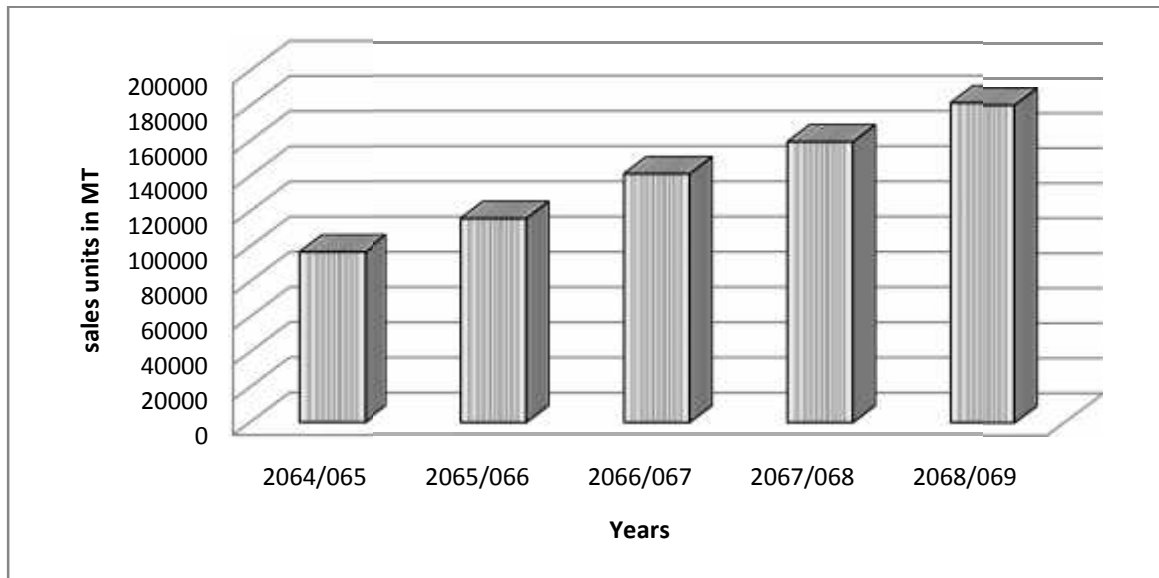
	Fiscal Year	MS	HSD	SKO	ATF	LDO	FO	LPG in MT
<b>Budgeted sales</b>	2064/065	114500	360000	180000	72000	400	2000	96837
	2065/066	114000	456000	66000	78000	300	3000	115813
	2066/067	130000	500000	50000	70000	250	2400	141171
	2067/068	180000	650000	45000	95000	250	1000	159286
	2068/069	200000	641000	40145	112100	-	405	181411
<b>Actual sales</b>	2068/069	199749	648513	41808	109808	-	435	181411
	2067/068	187641	655128	49495	101314	227	1415	159286
	2066/067	162275	612505	55788	82631	238	2589	141171
	2065/066	124169	446468	70089	68935	377	2171	115813
	2064/065	100842	302706	155216	68938	306	2919	96837

Source: Corporate Profile of NOC, 2068/69

**Figure 4.3**  
**Actual Sales of Petroleum Products except LPG**



**Figure 4.4**  
**Actual Sales of LPG**



The above diagram and table show that the actual sales units of different types of petroleum products from the fiscal year 2064/2065 to 2068/69. This graphical and tabular presentation indicates the higher sales unit of HSD than other products. In fiscal year 2067/68 there is higher consumption of diesel i.e. 655128 KL. The consumption pattern of kerosene is decreasing whereas the consumption pattern of petrol is increasing. Similarly, the consumption pattern of LPG is increasing annually. The demand of LPG is increasing annually by 15-20%.

Similarly a regression line can also be fitted to show the degree of relationship between total budgeted and actual sales of petroleum product. For this purpose, actual achievement has been assumed to be dependent upon budgeted. So, the regression line of achievement 'y' on budget 'x' is as follows:

**Table 4.6**

**Summary of AM, SD and r of NOC except LPG**

Statistical tools	Budgeted Sales (x)	Actual Sales (y)
Mean	832750	850939
Standard Deviation	122963.89	151668.856
Coefficient of Correlation = 0.832913814		

$$y - \bar{y} = r \frac{s_y}{s_x} (x - \bar{x})$$

$$y - 850939 = 0.832913814 \frac{151668.856}{122963.89} (x - 832750)$$

$$y = 1.027351 (x - 832750) + 850939$$

$$y = 1.027351x - 4588$$

$$y = -4588 + 1.027351x$$

By help of this regression equation, it can be ascertain that the expected sales achievement with given value of budgeted sales. Suppose expected sales for the year 2069/70 = 11,57,474 KL.

Now,

when, X = 11,57,474KL

Than expected sales achievement

$$y = 1.027351 \times 11,57,474 - 4588$$

$$y = 11,25,498$$

$$\dots y = 11,84,544 \text{ KL}$$

If the relationship between budgeted sales and actual sales remain same as previous year than the achievement sales for the year 2069/70 will be 11,84,544 KL i.e. the percentage achievement in coming year will be 102.33%.

### 4.3 Sales projection

To find out actual future sales for given time period, least square equation is used. A least square equation will show the relationship between given time and actual sales. This method assumes that a sale is constantly changed with change in time and such change can be expressed as component of time series.

To fit straight line trend, the time factor is considered as independent factor (x) and sales (y) as dependent factor, dependent upon time.

$$y_c = a + bx$$

Where,

$y_c$  = Slope of total sales

a = Constant

b = Slope of trend line

x = Independent variable

**Table 4.7**

**Fitting Straight Line Trend by Least Square Method**

Year	Actual Sales (y) in (KL)	x	x <sup>2</sup>	xy
2064/65	630927	-2	4	-1261854
2065/66	712209	-1	1	-712209
2066/67	916026	0	0	0
2067/68	995220	1	1	995220
2068/69	1000313	2	4	2000626
	$\sum y$	$\sum x$	$\sum x^2$	$\sum xy$

Fiscal year 2066/67 is assumed as base year; therefore, the value of x in 2066/67 is zero and negative for the year before 2066/67 and positive for the year after 2066/67.

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

$$y = a + bx$$

$$\text{Then, } a = \frac{\sum y}{N} \dots\dots\dots (1)$$

$$b = \frac{\sum xy}{\sum x^2} \dots\dots\dots (2)$$

Substituting the value in above equations

$$a = \frac{4254695}{5}$$

$$\dots a = 850939 \text{ KL}$$

$$b = \frac{1021783}{10}$$

$$\dots b = 102178.3 \text{ KL}$$

Now,  $y = a + bx$

$$\dots y = 850939 + 102178.3x$$

For fiscal year 2069/70, the value of x will be 3 due to assumed base year 2066/67.

We have,

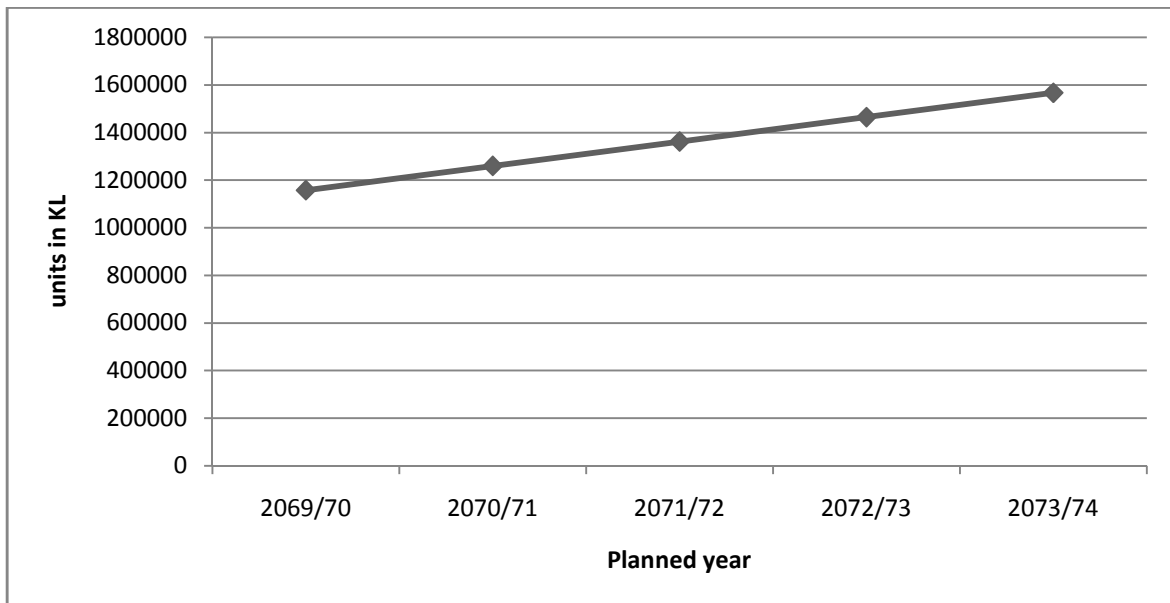
$$y = 850939 + 102178.3 \mid 3$$

$$\dots y = 1157473.9 \text{ KL}$$

**Table 4.8**  
**Sales Projection of NOC except LPG** [in KL]

Year (X)	Actual Sales (y) in (KL)	$x = (X - 2066/67)$	$x^2$	$xy$
2064/65	630927	-2	4	-1261854
2065/66	712209	-1	1	-712209
2066/67	916026	0	0	0
2067/68	995220	1	1	995220
2068/69	1000313	2	4	2000626
	$\Sigma y = 42546951$	$\Sigma x = 01$	$\Sigma x^2 = 101$	$\Sigma xy = 10217831$
<b>Budgeted year</b>	1	1	1	<b><math>y = a + bx</math></b>
2069/70		3	9	1157473.9
2070/71		4	16	1259652.2
2071/72		5	25	1361830.5
2072/73		6	36	1464008.8
2073/74		7	49	1566187.1

**Figure 4.5**  
**Sales Projection of petroleum product except LPG**



Similarly, the forecast of LPG can be done. For LPG,

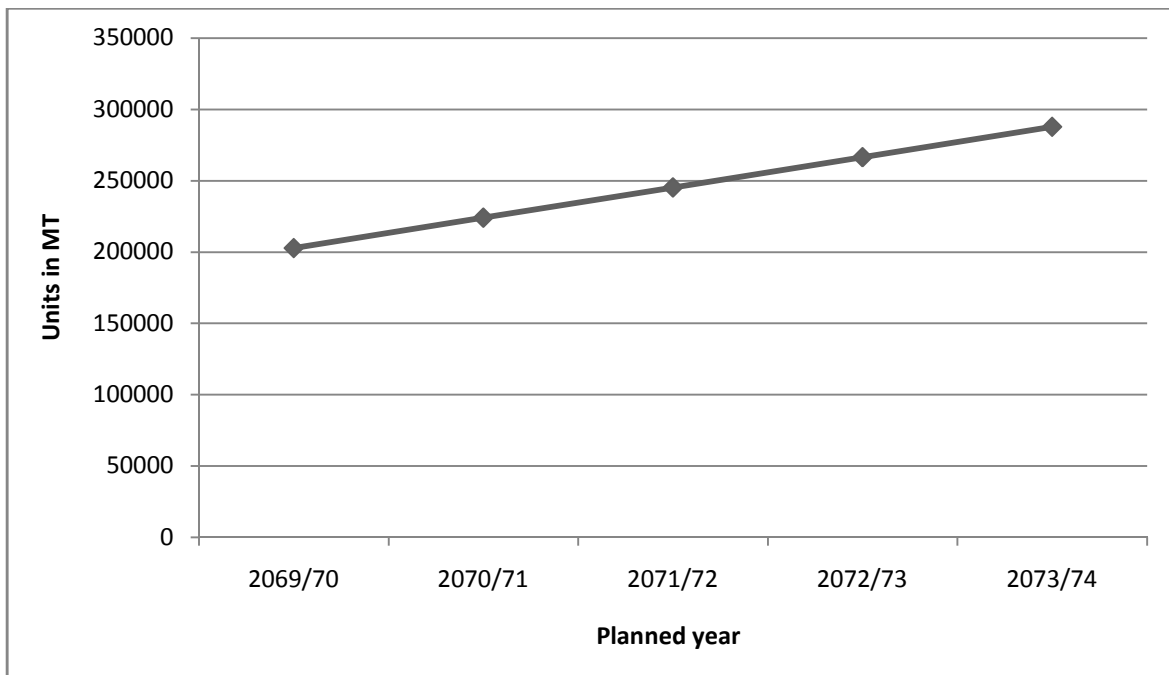
$$a = \frac{y}{N} = 138903.6 \text{ MT}$$

$$b = \frac{xy}{x^2} = 21262.1 \text{ MT}$$

**Table 4.9**  
**Sales forecast of LPG (in MT)**

<b>Year (X)</b>	<b>Actual Sales (y) in (MT)</b>	<b>x = (X - 2066/67)</b>	<b>x<sup>2</sup></b>	<b>xy</b>
2064/65	96837	-2	4	-193674
2065/66	115813	-1	1	-115813
2066/67	141171	0	0	0
2067/68	159286	1	1	159286
2068/69	181411	2	4	362822
	<b><math>\sum y = 694518</math></b>	<b><math>\sum x = 0</math></b>	<b><math>\sum x^2 = 10</math></b>	<b><math>\sum xy = 212621</math></b>
<b>Budgeted year</b>	1	1	1	<b><math>y = a + bx</math></b>
2069/70		3	9	202689.9
2070/71		4	16	223952
2071/72		5	25	245214.1
2072/73		6	36	266476.2
2073/74		7	49	287738.3

**Figure 4.6**  
**Sales forecast of LPG**





This trend shows the positive figures of sales for future. If the sales trend of past years will be continue for future all the petroleum products sales will increase positively.

#### 4.4 Import Analysis

After preparing sales plan the next step is to prepare purchase budget in non-manufacturing enterprises. In the case of non-manufacturing enterprises the sales plan must be converted to purchase requirement. The purchase budget is an estimate of the quantity of goods to be demanded during the planned period. The purchased is based as the capacity of storage and the requirement of sales plan. The main objective of the purchase plan is to fulfill the sales plan requirements.

The following table shows the purchase target and actual of NOC from FY 2064/65 to 2068/69.

**Table 4.10**  
**Budgeted Purchase and Actual Purchase of NOC**  
**By time except LPG (In KL)**

<b>Fiscal year</b>	<b>Target Purchase</b>	<b>Actual Purchase</b>	<b>% Achievement of purchase</b>
2064/65	728400	628785.8	86.324245
2065/66	753300	772264	102.51746
2066/67	756557	909357	120.19676
2067/68	951352	985897	103.63115
2068/69	1003786	1007980	100.41782
<b>Total</b>	<b>4193395</b>	<b>4304284</b>	<b>102.64437</b>
<b>Average</b>	838679	860856.8	102.64437

*Source: Corporate Profile of NOC, 2068/69*

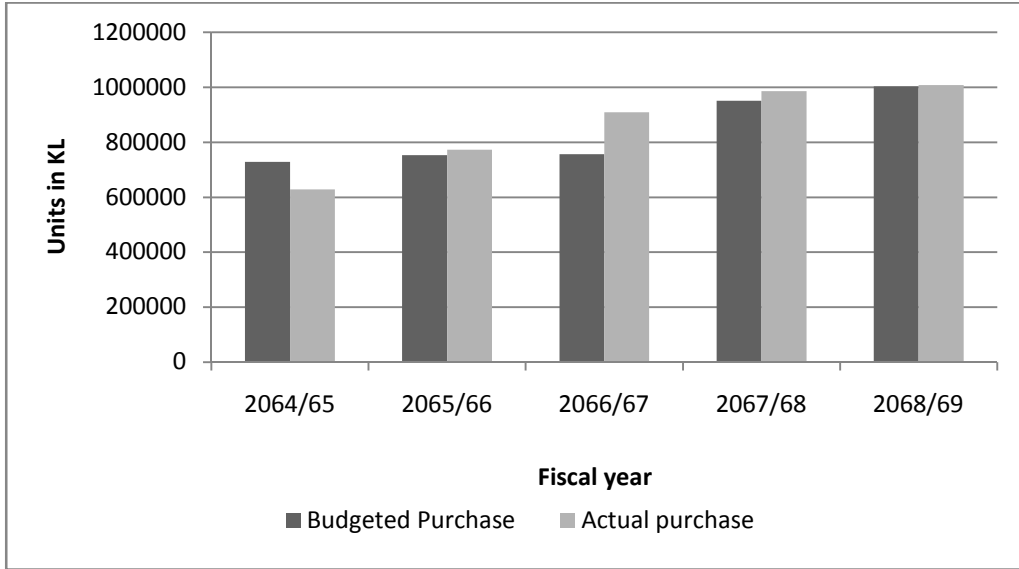
**Table 4.11**  
**Budgeted Purchase and Actual Purchase of NOC**  
**By period of LPG (In MT)**

<b>Fiscal year</b>	<b>Target Purchase</b>	<b>Actual Purchase</b>	<b>% Achievement of purchase</b>
2064/65	96837	96837	100
2065/66	115813	115813	100
2066/67	141171	141171	100
2067/68	159286	159286	100
2068/69	181411	181411	100
<b>Total</b>	694518	694518	100
<b>Average</b>	138904	138904	100

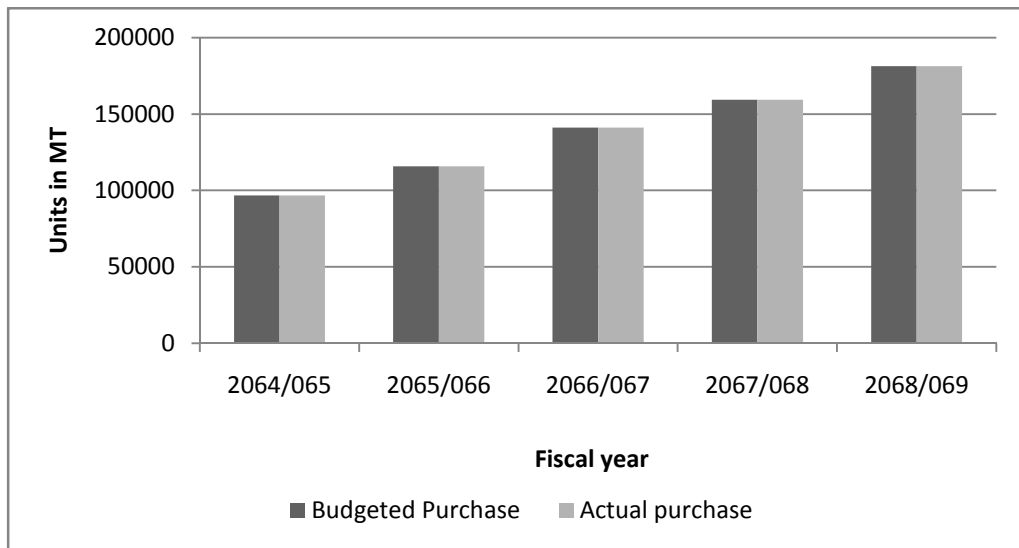
*Source: Corporate Profile of NOC, 2068/69*

The purchase plan depends upon sales plan. The above table shows the target and achievement purchase of NOC in different years. According to table, the achievement of target purchase has been fluctuating in different years. In fiscal year 2064/65 to NOC had not achieve it target. But after 2064/65 it had meet its target plus. It means there is no so effective planning system for purchase. The figure of table can be shown more effectively in bar chart.

**Figure 4.7**  
**Budgeted Purchase and Achievement of NOC**  
**by time except LPG**



**Figure 4.8**  
**Budgeted Purchase and Achievement of NOC**  
**by time of LPG**



Above figure shows the very nearest point for target and actual purchase in FY 2068/69 and shows the large gap between target and actual in FY 2064/65.

In order to calculate the variability of purchase the arithmetic mean, standard deviation and coefficient of variation from available data from FY 2064/65 to 2068/69 for 5 years data can be calculated as below:

**Table 4.12**

**Mean, standard Deviation, Coefficient of Variation, Coefficient of Correlation and Probable Error of Budgeted Purchase and Actual Purchase except LPG**

	Budgeted (KL)	Actual (KL)
Mean ( $\bar{x}$ )	838679	860856.76
Standard Deviation	115022.242	142364.455
Coefficient of variation (C.V)	0.13714692	0.16537531
<b>Correlation Coefficient (r)</b>	<b>0.82507467</b>	
<b>Probable Error (P.E)</b>	<b>0.09630089</b>	
<b>6 × P. E.</b>	<b>0.57780534</b>	

*Source: Appendix III*

The above analysis shows that budgeted purchase is less variable than actual purchase. The calculated mean of actual purchase is higher than budgeted purchase. C.V. of Budgets purchase is lower than actual purchase. Higher C.V. indicates more variable of data than lower C.V. Therefore, it is concluded that variability of actual purchase in NOC is high. S.D. of budgeted purchase is lower than actual purchase.

The significant of 'r' can be tested by the help of probable error of 'r'. The detail calculation of 'r' and probable error is presented in above table. We have calculated value of 'r' as 0.82507467. The calculated value of 'r' shows there is positive correlation between budgeted import and actual import. Since the value of 'r' is 0.82507467, which is near to 1 it indicates that there is highly positive correlation between budgeted purchase and achievement.

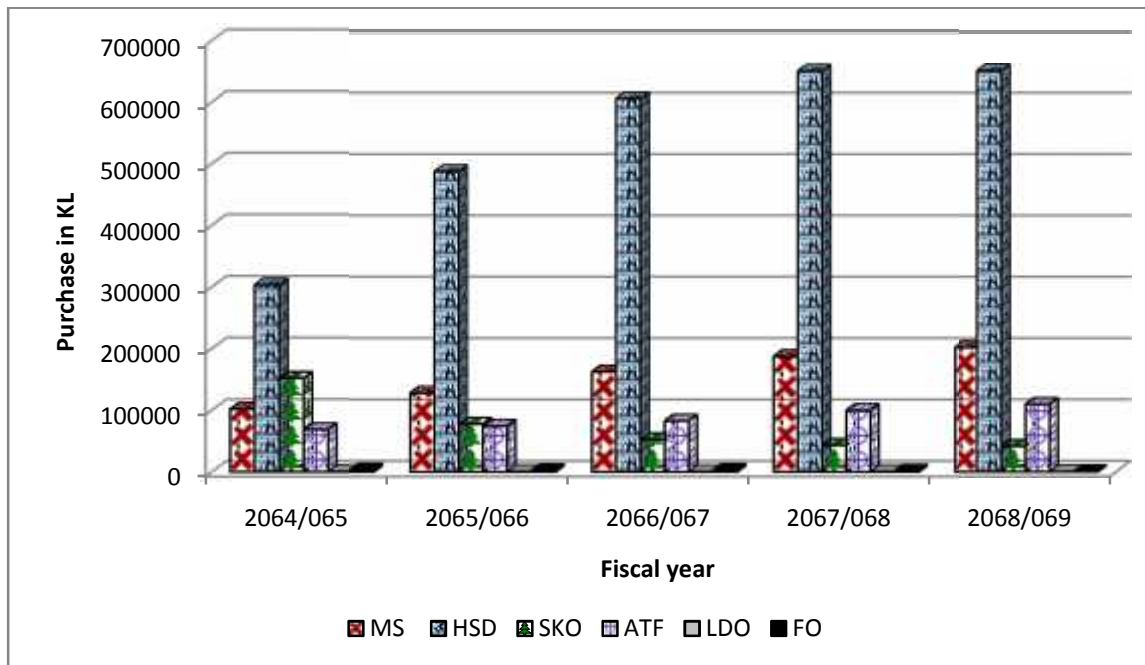
The significant of 'r' is tested by the help of probable error of 'r'. We have probable error of 'r' = 0.09630089. Since  $r > 6 |P.E (r)$ , then r is significant.

**Table 4.13**  
**Budgeted Purchase and Actual Purchase of NOC**  
**By Time and by Product** [in KL except LPG]

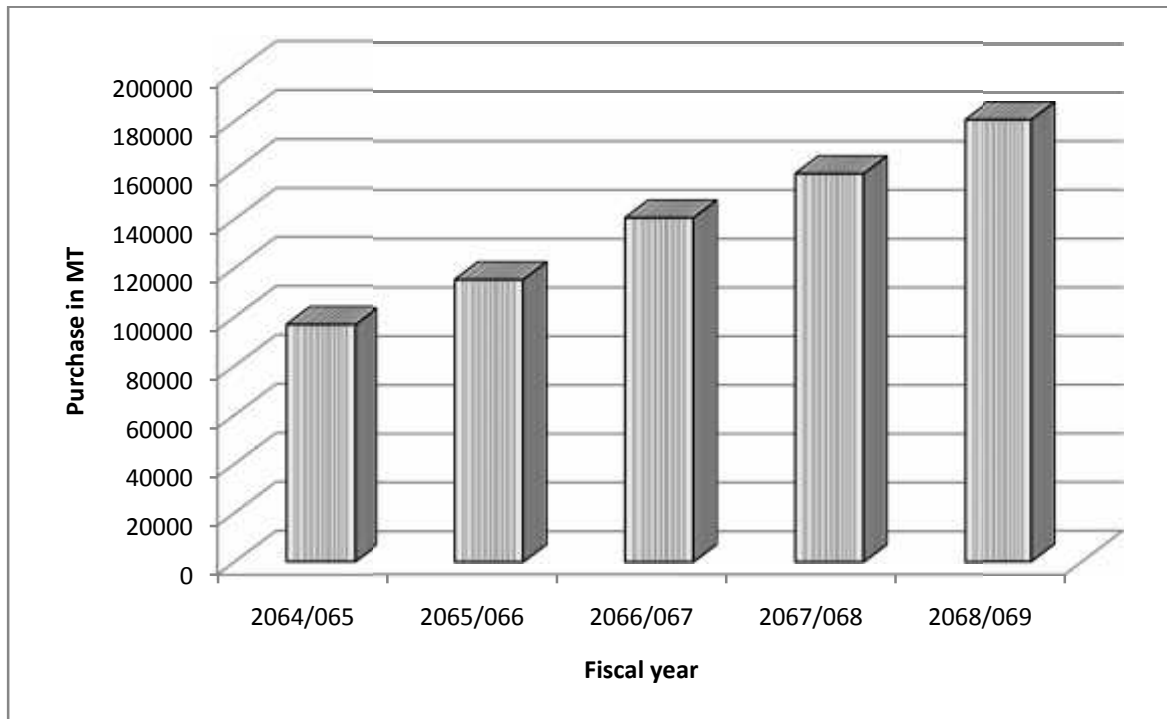
	<b>Fiscal Year</b>	<b>MS</b>	<b>HSD</b>	<b>SKO</b>	<b>ATF</b>	<b>LDO</b>	<b>FO</b>	<b>LPG in MT</b>
<b>Budgeted Purchases</b>	2064/065	114000	360000	180000	72000	400	2000	96837
	2065/066	120000	480000	66000	84000	300	3000	115813
	2066/067	130155	503752	50000	70000	250	2400	141171
	2067/068	180225	654877	45000	70000	250	1000	159286
	2068/069	205425	645810	39954	112192	-	405	181411
<b>Actual Purchase</b>	2064/065	101624	303212	152167.7	68534.1	308	2940	96837
	2065/066	128372	489219	77799	74306	380	2188	115813
	2066/067	162902	608065	52714	82824	240	2612	141171
	2067/068	188082	652764	43399	99990	228	1434	159286
	2068/069	202467	653560	41609	109904	0	440	181411

Source: Corporate Profile of NOC, 2068/69

**Figure 4.9**  
**Actual Import of Petroleum Products except LPG**



**Figure 4.10**  
**Actual Import of LPG**



This above graphical and tabular presentation indicates the import of different kinds of petroleum products from the FY 2064/2065 to 2068/2069. This table and diagram shows the different quantity of the petroleum products of different years by the products.

The import quantity of (HSD) Diesel is higher than other product in every year. The import quantity of supper kerosene oil (SKO) is in decreasing trends, while the import quantity of LPG is in increasing trends.

Similarly a regression line can also be fitted to show the degree of relationship between budgeted purchase and actual purchase. To calculate the regression line of purchase, budgeted (x) is assumed as independent and achievement (y) as dependent variable and get regression line 'y' on 'x' as under:

**Table 4.14**  
**Summary of AM, SD and r (In KL)**

Statistical tools	Budgeted Purchase (x)	Actual Purchase (y)
Mean	838679	860856.76
S.D.	115022.242	142364.455
r	<b>0.82507467</b>	

Now,

$$y - \bar{y} = r \frac{\sigma_y}{\sigma_x} (X - \bar{X})$$

$$y - 860856.76 = 0.82507467 \frac{142364.455}{115022.242} (X - 838679)$$

$$\dots y = 1.021205149x - 4393.447 \text{ KL}$$

By help of this regression equation, it can be ascertain that the expected purchase achievement with given value of budgeted purchase. Suppose expected purchase for the year 2069/70 = 1152463.18 KL.

Now,

When, X = 1152463.18 KL

Then, expected sales achievement

$$y = 1.027351 \times 1152463.18 \text{ KL} - 4393.447 \text{ KL}$$

$$\text{or, } y = 1179590.753 \text{ KL}$$

$$\dots y = 1179590.753 \text{ KL}$$

If the relationship between budgeted purchase and actual purchase remain same as previous year than the achievement sales for the year 2069/70 will be 11,79,590.753 KL i.e. the percentage achievement in coming year will be 102.35%.

#### 4.5 Import Projection

To find out actual future imports for given time period, least square equation is used. A least square equation will show the relationship between given time and actual import of petroleum product. This method assumes that the import is constantly changed with change in time and such change can be expressed as component of time series.

To fit straight line trend, the time factor is considered as independent factor (x) and import (y) as dependent factor, dependent upon time.

$$y_c = a + bx$$

Where,

$y_c$  = Slope of total purchase

a = Constant

b = Slope of trend line

x = Independent variable (time)

**Table 4.15**

**Fitting Straight Line Trend by Least Square Method**

<b>Fiscal Year</b>	<b>Actual Purchase 'y' in KL '000'</b>	<b>X</b>	<b>X<sup>2</sup></b>	<b>XY</b>
2064/65	628785.8	-2	4	-1257571.6
2065/66	772264	-1	1	-772264
2066/67	909357	0	0	0
2067/68	985897	1	1	985897
2068/69	1007980	2	4	2015960
<b>N = 5</b>	$\sum y = 4304283.8$	$\sum x = 0$	$\sum x^2 = 10$	$\sum xy = 972021.4$

Fiscal year 2066/67 is assumed as base year; therefore, the value of x in 2066/67 is zero and negative for the year before 2066/67 and positive for the year after 2066/67.



To fit straight line trend, the time factor is considered as independent factor and import is considered as dependent factor upon time. Then the straight-line trend of actual import y upon time expressed by:

$$Y = a+bx$$

$$\text{Then, } a = \frac{y}{N} \dots\dots\dots (1)$$

$$b = \frac{xy}{x^2} \dots\dots\dots (2)$$

$$a = \frac{y}{N} X \frac{4304283.8}{5}$$

$$\dots a = 860856.76$$

$$b = \frac{xy}{X^2} X \frac{972021.4}{10}$$

$$\dots b = 97202.14$$

$$\text{Now, } y = a + bx$$

$$\dots y = 860856.76 + 97202.14 x$$

For fiscal year 2069/70, the value of x will be 3 due to assumed base year 2066/67.

We have,

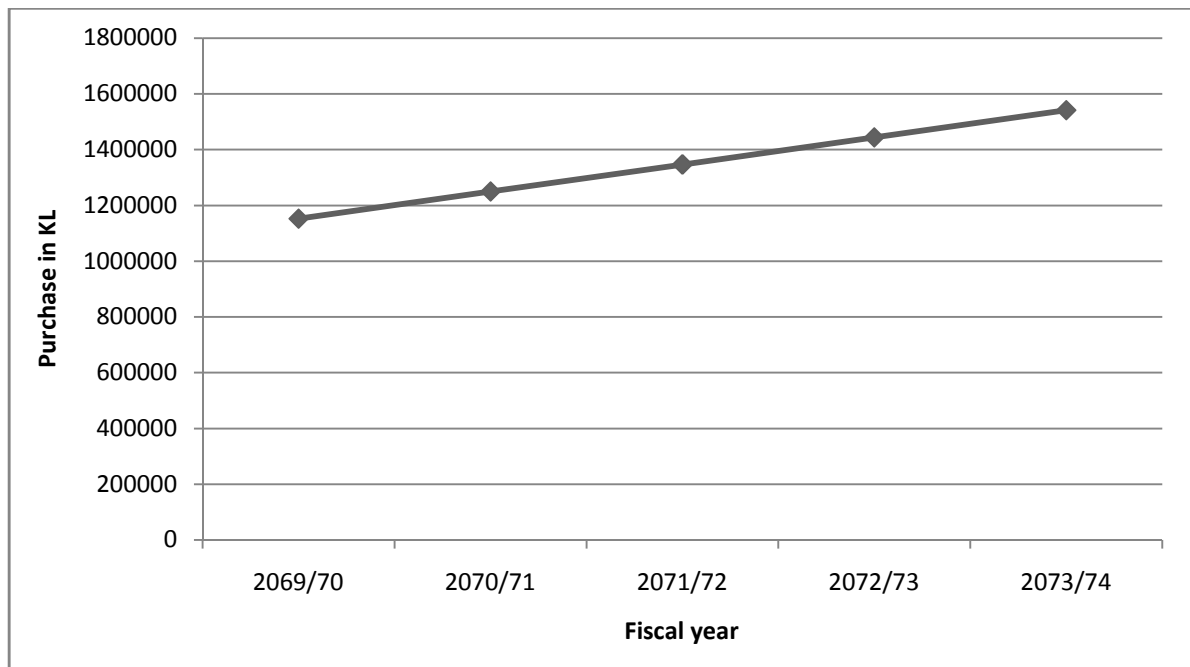
$$y = 860856.76 + 97202.14 | 3$$

$$\dots y = 1152463.18 \text{ KL}$$

**Table 4.16**  
**Import Projection of NOC except LPG**

<b>Fiscal Year</b>	<b>Actual Purchase 'y' in KL '000'</b>	<b>X</b>	<b>X<sup>2</sup></b>	<b>XY</b>
2064/65	628785.8	-2	4	-1257571.6
2065/66	772264	-1	1	-772264
2066/67	909357	0	0	0
2067/68	985897	1	1	985897
2068/69	1007980	2	4	2015960
<b>N = 5</b>	$\sum y$	$\sum x$	$\sum x^2$	$\sum xy$
<b>Budgeted year</b>	1	1	1	<b>y = a + bx</b>
2069/70		3	9	1152463.18
2070/71		4	16	1249665.32
2071/72		5	25	1346867.46
2072/73		6	36	1444069.6
2073/74		7	49	1541271.74

**Figure 4.11**  
**Import Projection of NOC except LPG**



#### 4.6 Sales and Distribution System of NOC

NOC's regular product included petrol, diesel, kerosene, aviation fuel FO and LDO. To meet the demand for petroleum products all over the country, NCO has a fairly wide distribution network only through private dealers. The numbers of private dealers in the country at present is over 2500. NOC's five regional offices, six branches and number of sales deposits make the distribution of petroleum products to these dealers.

In meeting the nation-wide demand for petroleum products, NCO has basic challenge to extend its distribution network further to cover the hilly and mountainous areas of the country, which are only scantily lowered at present. Future marketing efforts of NOC will be directed towards expansion of its market even in the remote parts of the country. POL products such as kerosene, diesel and petrol are marketed through dealers appointed by the company. These dealers supplies to retainers and their respective areas covering all the fourteen zones.

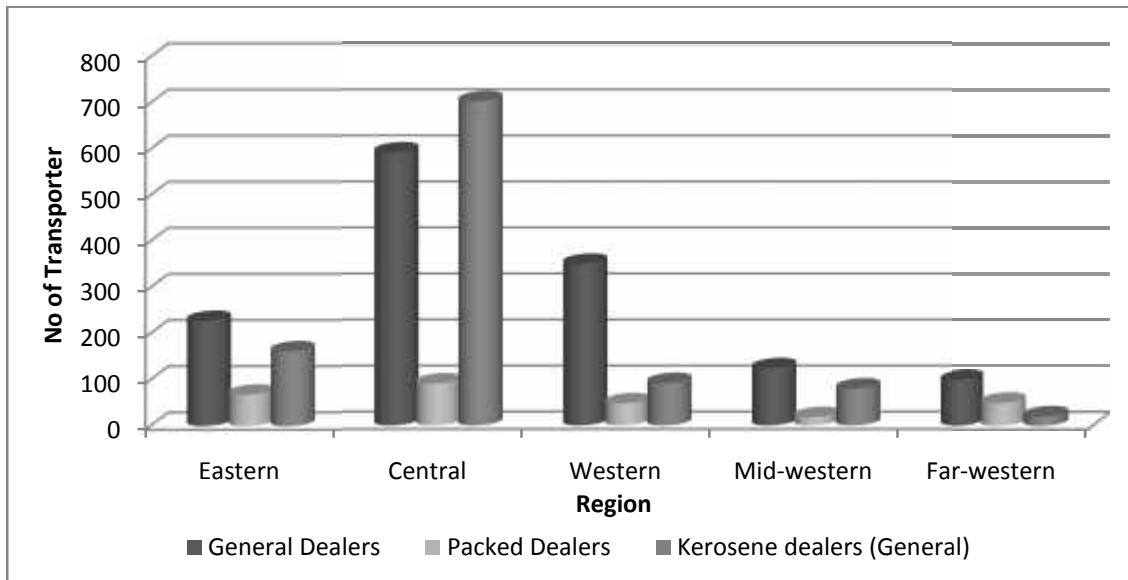
The numbers of dealers located in the different places of the country are as follows:

**Table 4.17**  
**Region-wise Petroleum Dealers**

	<b>Eastern</b>	<b>Central</b>	<b>Western</b>	<b>Mid-western</b>	<b>Far-western</b>
General Dealers	228	593	351	124	98
Packed Dealers	68	91	48	18	49
Kerosene dealers (General)	162	704	92	80	20

*Source: Corporate Profile of NOC, 2068/69*

**Figure 4.12**  
**Region-wise Petroleum Dealers**



From the above data, it is clear that the maximum sales dealers are in central region and than in western region of the country. The minimum sales dealers are located in far-western region of the country. POL products such as kerosene, diesel and petrol are marketed through dealers appointed by the company. These dealers supplies to retailers of their respective areas covering all the fourteen zones. But the aviation fuel distribution direct from NOC. The distribution system is usually followed by NOC for marketing.

- i. NOC → Dealer → Consumer
- ii. NOC → Consumers

#### **4.7 Storage Capacity**

Nepal Oil Corporation has storage facilities for petrol, diesel, and kerosene and aviation fuel only. These products are stored in NOC storage tanks as per their capacity in various places in the country. The storage policy of NOC is to fulfill the requirements as long as it is possible. The products which can't be stored because of lack of storages and delays in transportation are directly sold to the dealer. The

reserved stock is used for distribution. Altogether NOC has 72088 KL storage capacity in different 10 places of the country which can be shown in the table below:

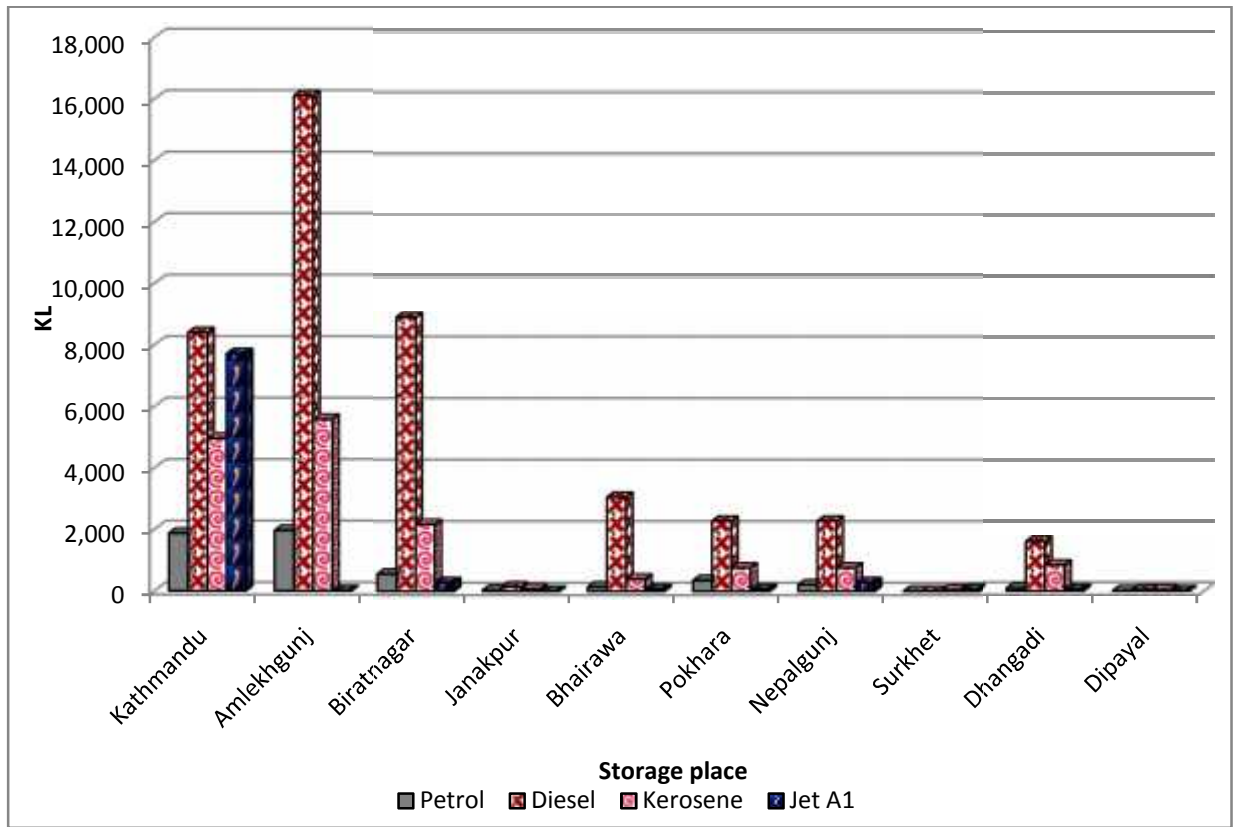
**Table 4.18**  
**Present storage spots and capacities (in KL)**

<b>Location</b>	<b>Petrol</b>	<b>Diesel</b>	<b>Kerosene</b>	<b>Jet A1</b>	<b>Total</b>
Kathmandu	1,870	8,400	4,960	7,710	22,940
Amlekhgunj	1,960	16,100	5,580	0	23,640
Biratnagar	560	8,910	2,170	280	11,920
Janakpur	30	140	70	0	240
Bhairawa	140	3,055	394	60	3,649
Pokhara	350	2,280	760	64	3,454
Nepalgunj	210	2,280	760	280	3,530
Surkhet	0	0	45	60	105
Dhangadi	85	1,590	830	45	2,550
Dipayal	0	30	30	0	60
<b>Total</b>	<b>5,205</b>	<b>42,785</b>	<b>15,599</b>	<b>8,499</b>	<b>72,088</b>

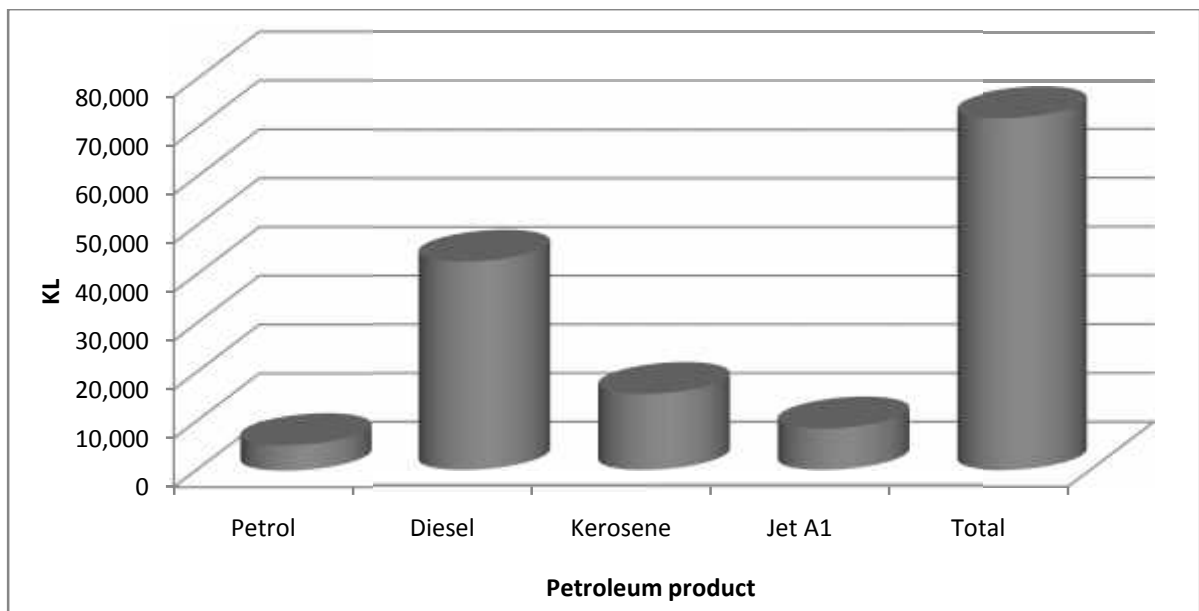
*Source: Corporate profile of NOC, 2068/69*

In this way, NOC has been built storages having different capacity in the different places of country. In the near coming future, NOC is going to expand its storage capacity in different places i.e. Bhairahawa, Nepalgunj, Dang and Birtamod. The highest storage capacity of NOC is in Amlekhgunj i.e. 23,640 KL and than in kathmandu i.e. 22,940 KL, thirdly in Biratnagar i.e. 11,920 KL. The lowest Storage capacity of NOC is in Dipayal i.e. only just 60 KL. Among the entire petroleum product NOC has high storage capacity of diesel i.e. 42,785 KL.

**Figure 4.13**  
**Present storage spots and capacities**



**Figure 4.14**  
**Present storage capacities**



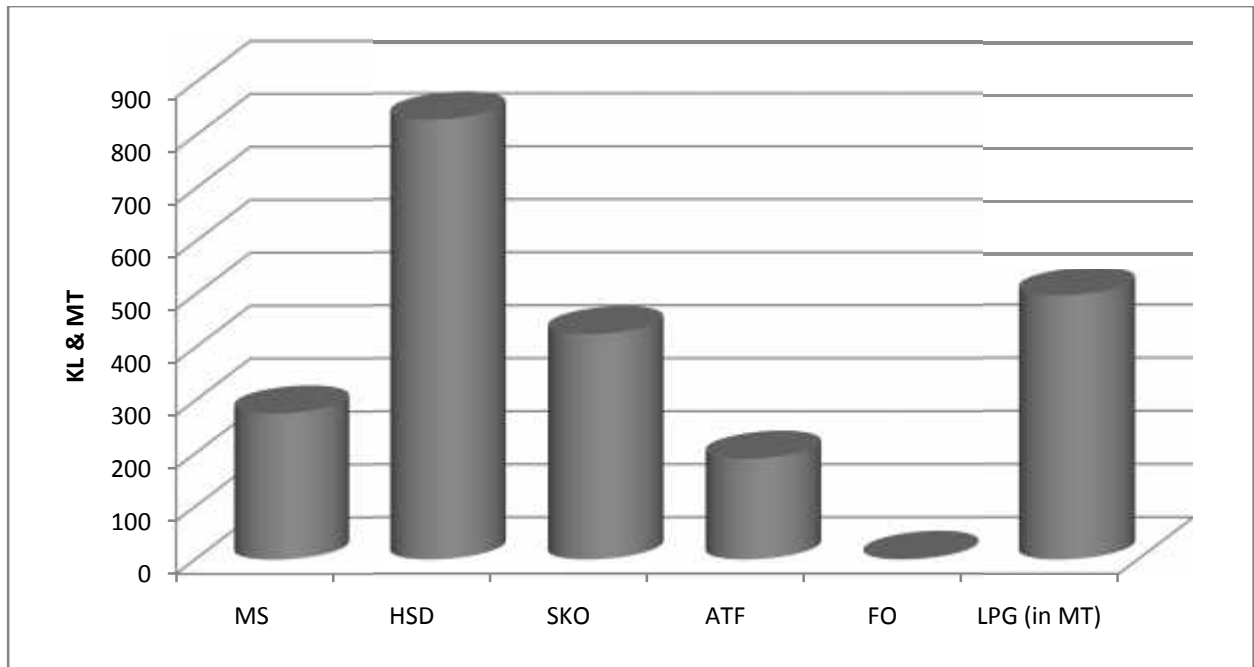
The consumption capacity of petroleum product is increasing in Nepal. The present consumption capacity of the petroleum product in Nepal can be shown in the table below:

**Table 4.19**  
**Daily consumption of petroleum Products (in KL)**

<b>Fiscal Year</b>	<b>MS</b>	<b>HSD</b>	<b>SKO</b>	<b>ATF</b>	<b>FO</b>	<b>LPG (in MT)</b>
Daily consumption	276	830	425	190	1	497

*Source: Corporate Profile of NOC, 2068/69*

**Figure 4.15**  
**Daily consumption of petroleum Products**



Present storage capacity of NOC can fulfill 20 days demand of Petrol, 52 days demand of diesel, 37 days demand of kerosene and 45 days demand of ATF.

## Part II

### Analysis of Primary Data

An empirical investigation has been conducted in order to find out various aspects of Accounting Information System. The major tools used for this purpose is an opinion questionnaire. All 7 sets of questionnaires were distributed to the various levels of employees. Out of which all filled questionnaires were collected from the respondents. The response received from various respondents have been arranged, tabulated and analyzed in order to facilitate the descriptive analysis of the study.

#### 4.8 Reason behind not able to Supply the Petroleum Products as per Demand

Table 4.20

##### Reason behind not able to supply the petroleum products as per Demand

Reasons	Frequency	Percent
Lack of Proper Distribution Centers	0	0
Obstacles Created by IOC	0	
Low Price of POL in Comparison to International Market	6	100
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

Nepal Oil Corporation has faced different problems. The above table presents the response of the NOC resource persons about the reasons of the NOC not able to supply the petroleum products as par demand. According to the respondent the NOC have not able to supply the petroleum products because of the low price of POL in comparison to international market.

#### 4.9 Simplify the Process of Import of NOC

NOC have only one importer of the petroleum products which is IOC. So it faces many difficulties while importing the petroleum products. In order to simplify the import process the Nepal Oil Corporation can do the following process according to the respondents view.



**Table 4.21**

**Simplify the Process of Import of NOC**

<b>Process</b>	<b>Frequency</b>	<b>Percent</b>
Minimize Dependency of NOC on IOC	0	0
Try to Import POL from other countries	3	50
Pressurize India for easing the import process	3	50
<b>Total</b>	<b>6</b>	<b>100</b>

*Sources: Field Survey*

The above table presents the simply process of import of NOC. It is seen in the table that 50% of the respondent think that it is better to try import POL from other country. Similarly 50 percentage of the respondent suggested that giving pressure to the India is also way of the easing the import process.

**4.10 Ways to Increase the Incremental Demand of POL Every Year**

**Table 4.22**

**Ways to increase the incremental demand of POL Every Year**

<b>Ways</b>	<b>Frequency</b>	<b>Percent</b>
Try to make oil agreements with others oil producing counties	4	66.67
Try to import oil through China	2	33.33
<b>Total</b>	<b>6</b>	<b>100</b>

*Sources: Field Survey*

NOC should be done different remedies to increase the rate of supply to cover the incremental demand of petroleum product every year. The above table demonstrates the ways to increase the incremental demand of POL. It is revealed that 66.67 percentage of respondents assumed that try to make oil agreements with others oil producing counties and 33.33 percentage of the respondent feel that import of oil through China is the ways to increase the incremental demand of POL every year.

#### 4.11 Steps to be adopted to run the NOC in a Managed Way

NOC faced different management related problem. It should adept diverse steps to run the NOC in a managed way.

**Table 4.23**

#### **Steps to be adopted to run the NOC in a Managed Way**

<b>Steps</b>	<b>Frequency</b>	<b>Percent</b>
Privatization the NOC	0	0
Develop the skills of NOC personnel's	1	16.17
Implement the public private partnership in managing NOC	5	83.33
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

The above table presents the steps to be adopted to run the NOC in a managed way. Interpretations According to the above table 83.33 percentage of the respondent think that implement the public private partnership in managing NOC is the way of managing NOC. Likewise, 16.17 percentage of respondent feels that a development of the skills of the NOC personals is way to run the NOC in a managed way.

#### 4.12 Reason behind continuous price hike of POL by NOC

The government regularly hikes the price of petroleum products in the wake of soaring crude oil prices the world over, but the move prove so unpopular that it has forced to suspend its fuel hike. Protestors are all over the place, they opposes the price hike and calls a general strike, and sensing that it may add fuel to the fire, then government under political consideration compel to decided to take back its decision of price hike.

**Table 4.24**

**Reason behind continuous price hike of POL by NOC**

<b>Reason</b>	<b>Frequency</b>	<b>Percent</b>
To maintain hike of POL in international markets	0	0
Due to vested interests of certain groups in Oil business	6	100
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

The above table reflects the reasons behind continuous price hike of POL by NOC. It is seen in the table that all respondent feels that due to vested interests of certain groups in oil business is the main reason of continuous price hike of POL by NOC.

**4.13 Reason behind buying rate of POL is higher than the selling rate in Nepal**

Government forces Nepal Oil Corporation to sell oil well below what it costs to buy, the debts of NOC is rising and India has cut back its petroleum supply to Nepal. So the buying rate and selling rate is not in balance.

**Table 4.25**

**Reason behind Buying rate of POL is higher than the selling rate in Nepal**

<b>Reason</b>	<b>Frequency</b>	<b>Percent</b>
Due to Politicalization in NOC	3	50
Due to social responsibility of NOC	0	0
Due to the protest of different groups	3	50
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

According to the above table it can be concluded that the main reason behind buying rate of POL is higher than the selling rate in Nepal is due to the protest of different groups due to politicalization equally.

#### 4.14 Ways to minimize the Transport Cost of POL

**Table 4.26**  
**Ways to minimize the Transport Cost of POL**

<b>Ways</b>	<b>Frequency</b>	<b>Percent</b>
Short cut routes should be opened soon	0	0
Pipeline should be built	6	100
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

According to the above table it can be concluded that the only way to minimize the transportation cost is to build pipeline line as soon as possible for the supply of petroleum product.

#### 4.15 Measures for effective distribution of POL throughout Nepal

The oil shortage is seen on the market time to time in Nepal. People are waiting hours to fill up their vehicles in the various petrol pumps of Kathmandu, and no one knows how long we will have this problem. So to solve this problem NOC should make distribution system effective.

**Table 4.27**  
**Measures for effective distribution of POL throughout Nepal**

<b>Measures for Distribution</b>	<b>Frequency</b>	<b>Percent</b>
Ensuring proper distribution plan suited to geography and demand	4	66.67
Open the new petrol pump by NOC itself.	2	33.33
Increase the territorial distribution centers of NOC	0	0
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

The above table reveals the measures for effective distribution of POL throughout Nepal. According to the above table 66.67% of the respondent feels that to make distribution system more effective the NOC should ensure proper distribution plan suited to geography and demand. Likewise only 33.33% of the respondent thinks to open the new petrol pump by NOC itself is the effective measure for distribution of POL throughout Nepal.

#### 4.16 Make the HR of NOC More Skilled, Motivated and Professional

Human resource is the key element for every organization. To retain good staff and to encourage them to give of their best while at work requires attention to the financial and psychological and even physiological rewards offered by the organization as a continuous exercise.

**Table 4.28**  
**Make the HR of NOC More Skilled, Motivated and Professional**

<b>Skills</b>	<b>Frequency</b>	<b>Percent</b>
Participating in decision making	2	33.33%
Training	1	16.67%
Making their job challenging	0	0
Reward and punishment	3	50%
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

The above table provides the different views of the respondent about the How can the management make the human resource of NOC more skilled, motivated and professional. 50% of the respondent thinks that reward and punishment is the best way to motivate the employee so on 33.33% of the employee feels that participating in decision making is the best way where as only 16.67% of the respondent feels that training is the effective way to make the HR of NOC more skilled motivated and professional.

#### 4.17 Priority Goal of NOC

**Table 4.29**  
**Priority Goal of NOC**

<b>Priority goal</b>	<b>Frequency</b>	<b>Percent</b>
Social responsibility	3	50
Balancing social responsibility and profit making	3	50
Profit making	0	0
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

According to the above table 50 percentage of the respondent are in the side of social responsibility and other 50 percentage are of balancing social responsibility and profit making should be the priority goal of the NOC.

#### 4.18 Solution of burgeoning crises seen in the Supply of POL

Government just cannot afford to make subsidy its best policy forever. Something must be done to overcome Nepal's petroleum problems.

**Table 4.30**  
**Solution of Burgeoning Crises seen in the Supply of POL**

Solution	Frequency	Percent
Privatization is the solution	3	50
Privatization is not solution	3	50
<b>Total</b>	<b>6</b>	<b>100</b>

*Source: Field Survey*

The above table provides the different views of the respondent about solution of burgeoning crises seen in the supply of POL. According to the above table 50 percentage of the respondent feels that the privatization is the solution of the burgeoning crises seen in the supply of POL likewise remaining 50 percentage feels that this privatization is not solution.

#### 4.19 Major Findings of the Study

- ) NOC doesn't have a practice of systematic and scientific sales planning and budgeting.
- ) There are no any proper short-term and long-term sales planning.
- ) The corporation has no clear pricing method.
- ) The main cause for shortage of petroleum product is due lack of proper sales planning.
- ) NOC does not have reliable forecast of future demand of petroleum product to be prepared prior.

- J Still NOC is being unable to be transparent.
- J Subsidy plan should be stopped to minimize the losses of NOC otherwise Government should compensate to NOC.
- J NOC does not carry out any kind of sales research to know the consumer's reaction and the external forces that could affect NOC's business in the long run.
- J Budgeted and actual sales have been prepared by NOC in quantity but not in rupees.
- J NOC has so many dealers in every prime location of the cities and highways. Some of NOC's dealers have built very good retail outlets to further enhance the image of NOC in the market.
- J Every price hike decision turns out to be a big propaganda or issue in the country.
- J NOC doesn't have clear-cut goal, objectives, policies, long term plans, strategic programs etc.
- J Regression line about sales and purchase of NOC indicates a positive trend.
- J Least square straight line of sales trend of NOC shows that sales will be high in future if present efforts are frequently being improved.
- J There is no good performance evaluation method of corporation. .
- J Top managers are less committed for budgeting although they have high participation in decision making and implementation, employees are moderately responsible for the deviation between budgeted and actual.
- J NOC prepares the sales plan and purchase plan only to fulfill the formality, NOC has not been able to implement the plan and sales plan effectively.
- J At last, overall sales plan is also not so clear and we can say that the budgeting procedure followed by NOC is not so clear and reliable; the performance of NOC is very weak.
- J NOC is unable to supply the petroleum products as per demands of market due to the low price of POL in internal market in comparison to international market.

- ) To meet the incremental demand to POL, NOC should simplify the import process.
- ) NOC can be well managed by developing the skill of NOC personals and by implementing the public private partnership in managing NOC.
- ) NOC is a public enterprise and so it has social responsibility but reason behind the improper sales planning of POL is due to the politicization of NOC and vested interest of certain groups.
- ) Due to landlockness of Nepal, import cost of POL is very high and so pipe-line transportation should be developed soon.
- ) Reward and punishment, participating in decision making and timely training can make the personals of NOC more skilled, motivated and professional.



## **CHAPTER - V**

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

#### **5.1 Summary**

Nepal Oil Corporation Limited is one of the largest public sector organizations in the republic of Nepal. It has been supplying continually such a vital commodity as POL products to the general, public enterprises, aviation field and the development projects of the national and international levels. It has been making significant contribution to the economic development of the country.

Today the concept of privatization is also arising in this sector smoothly. NOC has been trying to improve itself as a capable institution in copying with the new policy guidelines of the elected government by adopting itself within the framework of objectives of Government of Nepal aimed at liberalization of economy and transition to a market oriented economy based on competition and efficiency.

Nepal, being one of the land locked counties of the south-Asia, has to depend on India for the supply and distribution of various petroleum products as the eastern, southern and western part of the country is attached with India. Although there are some sources of petroleum goods in our county, they have not been exploited due to the lack of technology, poor economic conditions, lack of skilled man power etc. Therefore, all POL products have to be imported from others counties. Imports as well as distribution of POL products in Nepal were initiated first by the Burma and then by the standard vacuum oil company and the Indian Oil Corporation (IOC) in late 1940s. Realizing the need to institutionalize the supply as well as distribution of POL products in the country, it has served customers regularly.

NOC headquartered Kathmandu, has cover the years expanded and now has 5 regional offices, Branch offices, fuel Depots, Aviation fuel deposits, with total

existing storage capacity of 72,088 kiloliter (L) and employing 495 permanent work force and 141 impermanent work force all together there are 636 work force. The highest policy making and controlling body of NOC is its Board of Directors. The Board is represented by all the share holders currently the chief executive officer (CEO) of NOC is the executive chairman who has the overall responsibility of ready to day operations besides the chairmanship of NOC board. The operations of NOC are coordinated and executed by three divisions, each headed by deputy managing director

The present study has been undertaken to examine sales planning practice by NOC. The study has tried to assess the impact of sales planning and budgeting of petroleum products applied by NOC. Similarly it has tried to analyze problems and prospects of sales planning of NOC. The scope of study is limited for this micro level analysis. The five years 2064/65 to 2068/69 trends of data have been examined.

Both primary and secondary data are used in this study. The data have been analyzed with help of various statistical techniques like mean, standard deviation, graph, correlation, regression, covariance, time series analysis. The condition of import and sales of POL products, purchase policy and sales system applied by NOC, budgeted and actual sales have also been analyzed.

Related literature has been reviewed which consists of books, reports, periodical articles and dissertations.

## 5.2 Conclusion

After analyzing the present practice of sales planning and budgeting in NOC as per the objectives following conclusion are made:

- The sales plan is prepared on traditional and ad-hoc basic due to lack of skilled and expert planners.
- Actual sales is always higher than targeted sales similarly actual purchases is always higher than targeted purchases so, it can be concluded that there is less reliable forecast of future demand.
- The main cause for shortage of petroleum product is due lack of proper sales planning and budgeting.
- NOC has not adopted clear pricing model.
- Every price hike decision turns out to be big propaganda in the country so that NOC is operating always in loss.
- NOC is preparing its sales budget only in units so that it seems to be difficult to adjust dollar fluctuate in international market.
- NOC does not prepare long-term and short-term sales budget to overcome shortage problem.
- The targeted sales and actual sales of LPG is equal however shortage in market exit so it can be concluded that black marketing is existing here.
- Still NOC is being unable to be transparent.
- At last, overall sales plan is also not so clear and it can be said that the budgeting procedure followed by NOC is not so clear and reliable; the performance of NOC is very weak.

- NOC have no depth analysis of the company's strengths and weaknesses. The present study shows the following strength and weaknesses of the company.

### **Strengths of NOC:**

- NOC has got sufficient experience in the import of major petroleum products from the international market.
- NOC is a state owned enterprise established with social objective of serving the nation by making available the different grades of petroleum products in reasonable prices.
- NOC has got long term supply agreement with the biggest oil company of India, i.e. Indian Oil Corporation (IOC) Ltd. It has got nearly 56% market share in India.
- The supply points of IOC are quite closer to the Nepalese border areas from where the POL products are transported to NOC's depots. This ensures the smooth supply of petroleum products in the market.

### **Weakness/Threats**

- NOC has not been able to maintain a transparency of all its cost patterns and other marketing activities in front of Nepalese consumers and media.
- Every price hike decision turns out to be a big political propaganda or issue in the country.
- It is controlled by a government ministry which has got other major areas of concern like industries and commerce. Mostly the policy matters and necessary

pricing decisions are ending in the ministry. NOC is not depend on its policy and can't decide the retail prices of the petroleum products on its own.

### **5.3 Recommendations**

Based on the summary and findings of the study of sales planning and budgeting of NOC, some important suggestions have been recommended to improve the current position of the company. It seems necessary to develop improvement process of sales planning in the NOC. It is hoped that following recommendations will prove to be useful for the management of corporation:

- ) Sales planning and budgeting practice should be understood by every managers of the corporation. Role of budgets and planning should be understood by every managers of the corporation. Leakage should be completely controlled. Adulteration of different types of products must be controlled. Corporation should develop the detailed systematic periodic performance reports to locate by responsible person for accomplishing planning objectives.
- ) For the better marketing plans and quick decisions in the competitive atmosphere, NOC should computerize all its activities so as to understand the exact financial position of the company at any point of time. The availability of online information regarding import, shortage and sales of the products would really help in planning certain strategic marketing move in the field. Moreover, the use of modern technologies in its various activities will help to increase the productivity and reduce the marketing cost.
- ) NOC should give proper attention to manpower planning. Unnecessary pressure from the government should be avoided. The manager should be selected by the corporation who is more familiar having advanced knowledge about concerned business. When problems arise, he can deal easily and handle effectively.
- ) The corporation should have depth analysis of corporation's strengths and weakness. It should try to overcome the weakness by using the strengths.

- J NOC should re-structure its pricing modalities and try to do the pricing as per the actual cost basis whenever NOC gets new pricing from IOC.
- J NOC must have clear-cut goal, objectives, policies, long term plan, strategic program etc. NOC should be responsible and committed to accomplish them within the specified period of time.
- J NOC can establish a different set of pricing approaches for different consumers. The commercial users are getting more benefits from the subsidized price of kerosene and LPG as they are paying the same prices as the low income people pay for kerosene and housewives pay for LPG. NOC can suggest the government for the dual pricing of LPG so as to minimize the loss in LPG.
- J As NOC does not have any retail selling stations as their properties, they should either try to buy or enter into separate agreement with most of the petrol pumps located at the prime areas of the country. This would ensure to retain most of the market share with NOC even in the changed context.
- J Corporation should develop the detailed systematic periodic for performance reports assigned by responsible person for accomplishing planning objective.
- J Regarding the transportation of the POL, NOC should-issue tenders for the transportation in some areas and try to segment transporters in different categories so as to bring down the transportation cost and make the transportation business a competitive one.
- J There should be annual evaluation of the statement of the broad objectives of the corporation by the executive committee.
- J NOC should further try to reduce the costs that would have been incorporated while deriving the refinery transfer price by IOC and insist for all bonded products in real sense. This would help to reduce the costs of the petroleum products and NOC would be able to offer more competitive retail selling price in the market.

- ) Integrate the price of POL in accordance with the international market in a flexible manner.
- ) Skill of NOC personals should be updated and they should be motivated by participating in decision making and imparting justice over them and their activities.
- ) De-politicization of NOC is must and its autonomy should be given on the skilled hands, so that NOC can balance is dual goals social responsibility and profit making.
- ) Concept of public private partnership can be viable for managing the oil import and distribution. Proper strategy should be made towards this concept.
- ) Pipeline and railway can be the best way to reduce the high import cost of POL and so the government should make initiation towards this end.
- ) Subsidy plan should be well regulated by designating certain carters for subsidy distribution.
- ) NOC should insist the government to allow NOC to keep certain margins for its overhead expenses development and investment activities. If there is decline in the costing due to full of IOC's monthly price derived on the basis of international pricing, it should try to pass on some benefits to the consumers, too.
- ) Finally, NOC should re-structure its pricing modalities and try to do the pricing as per the actual cost basis. Whenever NOC gets new pricing from IOC, selling price and the details of tentative breakdowns and justifications have to be provided to the public and press.

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