

# **CHAPTER-I**

## **INTRODUCTION**

### **1.1 Background of the Study**

Sales planning is the most necessary part of profit planning and control in every business organization. It provides the basic management decision about marketing. It is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic most of others parts of profit plan are not realistic. Therefore, the management believes that if realistic sales plan can not be developed there is little justification for profit planning and control. Despite of these views of the particular management, such a conclusion may be on implicit admission incompetence.

Sales planning & forecasting are often confused. Although they are rather it is a statement and a quantified assessment of future condition of the particular subject based on one or more explicit assumptions. A forecast should always state the assumptions upon which it is based. A forecast should be viewed as only one input into the development of a sales plan. The management of a company may accept, modify, or reject the forecast other inputs, management judgement about such related item as sales volume, price, sales efforts production and financing.

A sales forecast is converted to a sales plan when management has brought to bear management, judgement planned strategy commitment of resource and the managerial commitment to aggressive action the sales goods (Welsch, 1986: 172). Sales forecasting is only one step in sale planning. That sales forecast is conditional. They normally must be prepared by prior to management decisions or plans in such areas as

expansion, price change, promotional programs, contraction of marketing activities and other resources commitments. Without proper sales planning no company can survive with their goods according to customers' need for the long period of time. The planning is lifeblood of any organization.

The principal organization for the dairy development in Nepal has the Dairy Development Corporation (DDC) established under the Corporation Act in 1969 or (2026 B.S). The DDC was created, as full government owned corporation under the ministry of Agriculture with the responsibility of overall development of dairy industry in Nepal.

“Processing of dairy products within the rural households and cottage type under taking has long history in Nepal. Processing methods are simple and labour intensive process is done for a number of purposes i.e. to preserve the milk to produce marketable products e.g. ghee, to produce traditional dishes which are used by the households and during festivals, livestock farming has been a traditional enterprises in Nepalese farmers and has mostly been carried on in sufficient household scale and thereby benefited them as the secondary source of income.”

The history of dairy development in the organized sector is not long. Systematic dairy development in Nepal began in 1952 when HMG/N requested assistance from FAO of the United Nation in trying to better utilization of milk produces in the mountain region in the country.

To decentralize the milk collection processing and supplying of milk and milk products through the kingdom to the benefit of both the milk producing farmers and consumers scattered through the kingdom altogether seven milk supply scheme were established on phase wise basis. They are as Kathmandu Milk Supply Scheme (KMSS), Biratnagar

Milk Supply Scheme (BMSS), Hetauda Milk Supply Scheme (HMSS), Lumbini Milk Supply Scheme (LMSS), Madhya Paschimchal Milk Supply Scheme (MPMSS), Pokhara Milk Supply Scheme (PMSS), Milk Product Production and Sales Supply Scheme (MPPSSS).

In a view of national welfare, the objectives of the corporation is to bring timely progress in the collection, sterilization, conservation, sales and distribution of dairy and dairy products with modern and scientific method for the economic enlistment of the producer and protection of health of the consumer with more efficiency and readiness (Profile, Corporation of Council,1978:87).

The DDC is a public enterprises created with the aim to increase the milk production, in the rural areas by collections and available quantity of milk, process and distribute it on the urban population at socially acceptable prices as a commercially viable operation. DDC's main objectives are:

- i. Bring improvement in production, collection, processing, preservation sales and distribution of milk and milk product in modern and scientific way.
- ii. Provide a reliable market outlet and fair price to milk producer.
- iii. Supply pasteurized milk and other dairy products to urban consumer at reasonable prices.
- iv. Organize, promote and extend milk collection, production processed milk and milk products to meet demand in urban areas.
- v. Organize and promote milk product's association (MPAS)

Public enterprise have been universally establishing in most developed countries like the USA, Britain, and France as well as in developing

countries like India, Nepal and Srilanka among others. Indeed, PE's have become important and seeming for developing countries.

Since the 19<sup>th</sup> and early 20<sup>th</sup> century the growth of PE's have indicated a significant change in economic social thinking among government. The concept was born out to the following two situations: (Jones, 2051).

1. Lack of Private investment capital.
2. Lack of Skill and professional maturity among private entrepreneurs.

Thus, government policy makers have adopted the establishment of PEs as an instrument for social-economic development. Generally "PEs are autonomous bodies which are carried and managed by the government and which provide goods and services for a price and ownership with the government should be 51% or more to make an entity. Planning is the first function of management. It is performed continuously because the passage of time demands both re-planning and making new plans. Moreover, current feedbacks often necessitate newly planned actions to: (Jones, 2051).

- a) Current performance differences.
- b) Cope with unanticipated events, that are unfavourable and
- c) Take advantage of new developments.

Management planning is the process that includes the following 5 (Five) Phases:

1. Establishing enterprise objectives and goals.
2. Developing premises about the environment of the entity.
3. Making decisions about the courses of action.
4. Initiating actions to activate the plans and

5. Evaluating performances feedback for re-planning management planning provides the basis for performing the four other functions: Organizing, Establishing, Leading and Controlling.

Specially, planning means setting goals and picking out what appears to be the way to meet the goals.

“Sales plan is the first and most difficult plan to prepare. It is the starting point for the preparations of the comprehensive profit planning and control. All the other budgets are dependent upon the sales budgets. The sales budget is usually presented in both units and dollars of sales revenue. The preparation of sales budget is dependent upon the sales forecast. A variety of methods are used to forecast the sales for the budget period the actual sales for past periods serve as an excellent guide to forecasting future sales. The D.I system should be used to prepare and analyzing the actual sales by region, terrorizes, salesman, types of customers etc” (Holmes, et. al.1970:687).

The sales planning process is a necessary part of PPC because:

- a) It provides for the basic management decisions about marketing and
- b) Based on that decision, it is an organized approach for developing a comprehensive scales plan. If the sales plan is not realistic, most if all of the other parts of the overall profit plan also are realistic. 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 for planned, the manpower requirements, and the production levels and other important operational aspect depends on the volume of sales.

A comprehensive sales plan includes two separate but related plans, the strategic and tactical sales plans. A comprehensive sales plan in corporate such management decisions as objectives, goals, strategic and premises. These translate into planning decision about planned volume (Units or Jobs) of good and services, prices, promotion and selling efforts.

### **Compared Strategic and Tactical Sales Plan**

“In harmony with a comprehensive profit plan both strategic long term and tactical short-term sales plan must be developed. Thus the usual case is a 5-10 yr. Strategic sales plan and due to a year tactical sales plan. Many sales and resources involving like span of many years' basic strategic and major decisions that involve commitments of resources and long like spans are difficult to stop. Sometimes it may be helpful to view the development of due long range and short range sales plan 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, 1992: 173).

### **Brief Introduction to DDC**

DDC is an organization, which has been established for collecting milk from different rural areas of the country and supply the milk and milk products to the people of urban area in cost effective and efficient way. The principal organization of dairy development in Nepal has the Dairy Development Corporation (DDC) established under the corporation act in 1969. The DDC was created, as a full government opened corporation under the Ministry of Agriculture with the responsibility.

Dairy Development Board(DDB) and the Dairy Development Section (DDC) were dissolve and a Dairy Development Corporation(DDC) was

constituted under the corporation's act 2021 B.S (1964 A.D) HMG/Announced the constitution of DDC through Nepal Gazette dated 2026 (1969), Kartik 18<sup>th</sup>. The preamble says: “ In order to maintain the health and wealth being of the consumers and promote services in a modern , scientific and co- ordinate ways, of milk production, collection, processing conserving and marketing of milk and milk products, a dairy development corporation has constituted.’ DDC started functioning from 1<sup>st</sup> Shrawan 2026 B.S (16<sup>th</sup> July 1969) with its head office Lainchour. The objectives of the corporation were laid as under:

- Provide a guaranteed market and fair price to milk producers.
- Supply pasteurized milk and other dairy product to urban consumers at reasonable price.
- Organize, promote and expand milk collection, production to bring self-sufficiency in milk and milk products in order to meet the local demand and substitute imparts of dairy products(National Dairy Development Board, History).

In keeping with its objectives, DDC was responsible both for development and expansion of dairy industry and at the same time to operate commercially with the principle of no profit no loss. It was quite successful in this regard. The DDC began with milk processing plant at Lainchour. The plant had capacity of processing 1080 liters of milk per hour. There were also three yak Cheese factories in the alpine belt under a separate scheme called Cheese Production and Supply Scheme (CPSS).

DDC has been collecting cow, buffalo and Yak/Chauri milk from 40 districts. More than 3.5 lakhs liters of milk from the farmers and producing the milk products. Its present milk collection network has spread from Panchthar in the east, Surkhet in the West. DDC has been

playing a special role in contributing to uplift the economic status of rural farmers. Currently DDC has been collecting more than 3 lakhs liter of milk from the farmers and producing the milk products. Nepal is an Agriculture country, so, with the growth in population, urbanization and increasing demands of nutritious food and knowledge growing the people demand for milk and milk products is increasing day by day. DDC has been providing opportunity for 250000 farmers and their family in poultry farming and in dairy production. Similarly, around 15000 peoples have been engaged in collection of milk, co-operative management, milk carriage, milk and milk products sales. So, DDC has provided employment opportunity to these peoples and still to many with the time. Milk processing factories has been established in Kathmandu, Biratnagar, Hetauda, Pokhara, and Lumbini as different milk project. Around 600 technicians (including officers and assistant) and around 350 administrative staffs (including officers and assistant) are serving under different project of DDC. Thus dairying has been recognized as an effective tool for poverty collection and economic development of rural farmers.

DDC provides qualitative milk and milk products to the consumer at national level. The demand of the milk is increasing day by day because of high quality and hygiene. DDC is totally owned by the government. World Food Program (WFP), Government of New Zealand USAID and Danish Government have been the major donors of the corporation. DDC could not buy all the milk offered by the farmers especially during the flush season. As a consequence, it had to impose milk holiday on certain day during the period. On the other hand, during the lean season DDC had been importing Skimmed milk powder to meet the consumer's demands. To mitigate this problem a skimmed milk powder plant was



established in 1994 A.D to substitute import milk powder. Since, the FY 2055/56 B .S DDC started export of the milk to the boarder areas of India.

DDC has been producing different products. Some of the products are Pasteurized Milk, Dahi (Yoghurt), Butter, Paneer, Ice-cream, Cream, Cheese, Skimmed milk powder (SMP), Dairy sweet: a) Peda, b) Lalmohan, c) Rasbari etc.

DDC has 7 milk supply scheme for milk production and distribution, which are Kathmandu Milk Supply Scheme (KMSS), Biratnagar Milk Supply Scheme (BMSS), Hetauda Milk Supply Scheme (HMSS), Pokhara Milk Supply Scheme (PMSS), Lumbini Milk Supply Scheme (LMSS), Milk Product Production and Sales Supply Scheme (MPPSS), and Madhya Pashimanchel Milk Supply Scheme (MPMSS). Out of these milk supply scheme Pokhara milk Supply scheme has been privatized but the collecting procedure of milk, cooling center of milk, milk producing co-operative groups are still left so it has been considered.

## **1.2 Statement of the Problem**

Every country's economic prosperity depends upon a sustainable economic development for the attainment of accelerated economic development in the country, industrialization is equally more important than the agricultural and other primary sector. The industrialization in the process of value added contributes to the creation of new employment opportunities and economic integration. It is the known fact that Nepal is a developing and mountainous country as well as agricultural country. Agriculture is the main occupation of most of the Nepalese people. Poultry farming, fishery, beekeeping, cattle farming etc are main areas of

agriculture. Most of the people in the country rely on agricultural production for their livelihood. Country's geographical feature is such that cattle farming can be promoted as one of the major economic agenda for uplifting rural economy. Cattle farming, poultry can be promoted from plain regions to high mountainous region. Currently, cattle farming are playing as important role in fulfilling basic needs of the rural area's people.

Providing milk and its products to the consumers in fair cost and in effective way is the main objective behind the establishment of DDC in Nepal. DDC has been collecting milk from 41 districts under different projects run under it. Most of the PE's produce only goods but are unable to obtain the required goods for production as well as sufficient market area and their products are in condition of damage. But, DDC has no such problem in selling its dairy products. In recent days there has been establishment competition of DDC with the other dairies. So, DDC is the competition with the other diaries for the market as well as getting milk from the farmers. In the past it was a sole producer of milk and milk products (officially). There was a kind of monopoly and there was no problem in market (i.e. selling of its products). But, the scenario has been changed now. People in rural areas theses days are encouraged in commercial cattle farming. They produce milk products and milk themselves and sell them in local market. So, DDC is facing some problems.

This study has tried to find the answer of the following questions:

- 1) To what extent, DDC has been following the process of sales plan?
- 2) How does an actual sale vary from budgeted sales in DDC?
- 3) What is the effectiveness in implementation of sales plans in DDC?

### **1.3 Objectives of the study**

The objectives of this study are to raise the practice of sales planning system and its effectiveness, applied by DDC.

The specific main objectives of the study can be stated as follows:

- a. To examine the formulation and implementing procedure of sales plan in DDC.
- b. To evaluate the variance between budgeted and actual sales of the DDC.
- c. To examine the effectiveness of sales plan in DDC.
- d. To provide suggestions and recommendations for the betterment of sales plan in DDC.

### **1.4 Justification of the study**

Profit planning has become an important technique in the use of managerial decision making in business enterprises. But it is not possible without the proper planning of sales. Sales planning are the major instrument, which minimizes future uncertainty, maximizes profit and optimum utilization of the resources. The main purpose of the sales planning is to provide necessary information for developing other elements of a comprehensive profit plan. Therefore this study may be useful to entrepreneurs, to decision makers, to policy makers, to further researchers.

### **1.5 Limitations of the Study**

The main limitations of the study are as follows:

- This study is mainly based on the published secondary data and no attempt has been made to examine the reliability of the data. Similarly set of questionnaire distributed to the managerial level staffs and interview taken to related persons of central office of DDC and feedback from that has been used as primary data.

- The study is based on 7 years data from 060/61 to 066/67.
- Limited time and resources.
- This study is concentrated in the sales planning of DDC so it does not cover all other areas of DDC.

## **1.6 Organization of the study**

The whole study has been categorized into five major chapters which are as follows:

**Chapter I: Introduction:** This Chapter includes background, statement of the problem, objectives of the study, justification of the study, limitation of the study, organization of the study.

**Chapter II: Review of literature:** This Chapter includes the conceptual framework and literature review.

**Chapter III: Research methodology:** This chapter includes the research, research design, population and sample, the sampling procedure, the data gathering procedure, the statistical procedure and data analysis procedure.

**Chapter IV: Presentation and analysis of data:** Presentation and Analysis of data is presented in this chapter which includes managerial process analysis, sales target and achievement, sales forecast, major findings.

**Chapter V: Summary, conclusion and recommendations:** This Chapter includes Summary, Conclusion and Recommendation of the research work.

At the end of the chapter bibliography and appendices have been given.

## **CHAPTER-II**

### **REVIEW OF LITERATURE**

In this chapter the focus has been made on the review of literature relevant to the sales budgeting and planning of public enterprise. Every study is based on passed knowledge; it provides foundation of present study. Therefore this chapter helps as an adequate feedback to broaden the information and to base the inputs to my study. Therefore this chapter has its own importance in this study. This chapter has been reviewed with the help of related books, reports.

#### **2.1. Conceptual Review**

All the theoretical or conceptual part of planning as well as sales planning has been discussed in this part.

##### **2.1.1 Meaning and Defining of PEs**

Governments of developing countries have generally a strong urge to develop and modernize their economics at the factor place and more importantly on a rational and socially desired footing. Therefore, they found it necessary to take substantial initiative in promoting economic and social development through the planning and development of public sectors activities. Thus, “Public enterprises” came to be widely accepted as effective tools for accelerating the achievement of socio-economic goals.

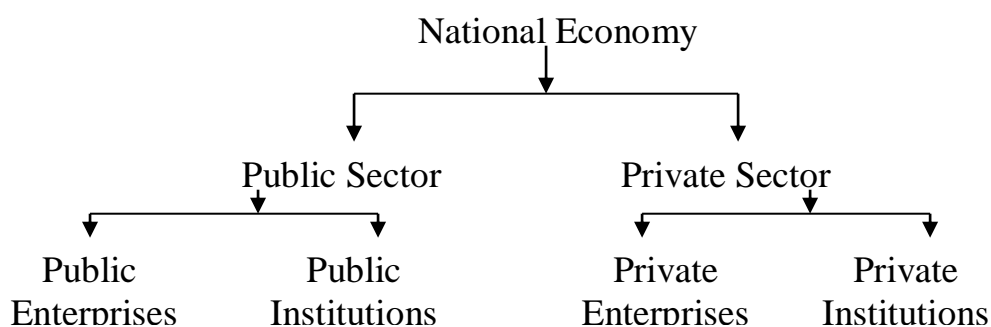
Meaning of the term “PEs continues to remain vague and varying. It is rightly said that public enterprises is a notable for very untidy concept.” PEs general word which make very difficult reality. There is no authorities internationally accepted definition of the term public

enterprises. It is each country's prerogative to draw the line between public enterprises and other government organizations and activities.

Though PE generally has legal autonomy as joint stock company as a statutory corporation as a co-operative society or as a society under the societies registration Act, it is not an essential ingredient of public enterprises (Narayan, 1982:1).

In brief PEs is an organization which is owned by public authorities to the extent of 50% or more is under the top management business character and markets its output in the shape of goods and services for a price.

In nature and scope of PEs can be conceptualized in the framework of the following diagram which attempt to represent all institutionalized activities in mixed enterprises into four segments.



### **2.1.2 Position of DDC in Public Manufacturing Enterprises in Nepal**

Public enterprises were established in order to prepare infrastructure service and to expect to help in controlling the price situation, to create opportunities for employment, to increase government revenues and to contribute significantly in the national development as well as to assist in the country's economic achievement, DDC is one of the public enterprises which was also established to fulfill those objectives (Jones, et.al.1970:687).

The government only wholly own DDC its management and operation are also fully controlled by the government. As a matter of fact, the basic philosophy behind Corporation Act is neither to earn profit nor to run the operation in a commercial manner. The objective is to run the activities through a corporation which otherwise should have been operated by the management. It is only for the shake of continence that the corporation is created. It is almost like government whether DDC can be run as a commercial entity under the present legal set up.

The DDC is a public enterprises created with the aim to increase the milk production in the rural areas by collecting and available quality of milk. Process and distribute it to the urban population at socially acceptable prices as a commercially viable operation.

Livestock keeping is playing a major role in the total agricultural activity of the country. The contribution of this sub-sector to the gross Domestic Product (GDP) of Nepal is about 26.4%, which as significant as the other sub-sector of the country's agricultural system (Gagan Rastriya Dainik, 2058).The contribution of milk production to the GDP is 6%. Thus the milk production is an important activity.

Most of the people of Nepal are engaged in the agriculture. Number of disguised unemployment is high in Nepal. So, the dairy farming may be an important occupation for the people to reduce the degree of unemployment. Organized commercial dairy farming i.e. DDC can largely help the people to generate income for them and hence to raise national income.

Large numbers of people are unemployed in Nepal. If the country is able to increase dairy firms, it will certainly help to solve such chronic unemployment problem to some extent. DDC is closely related to

agriculture where the higher portion of population of Nepal engages in agriculture it has important role to play in the economic development of Nepal.

In the year of its existence, DDC was fulfilling its objectives as an agent of rural development and supply of dairy products to the urban population but its operations were commercially, not viable and as a result losses were accumulated.

### **2.1.3 Sales Plan is a Part of Profit Plan Programme**

"The sales planning process is a necessary part of PPC because (a) it provides for the basic management decision about marketing, and (b) based on these decisions. It is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic, most if not all of the other parts of the overall profit plan are not realistic. Therefore, if the management believes that a realistic sales plan cannot be developed; there is little justification for PPC" (Gyawali et al. 2064).

Sales plan or budget is the first plan of budget to be prepared. It is the 'nerve center' of the operating budget. It is starting point and backbone of the development of profit plan, without the preparation of sales plan the profit plan is incomplete and is to like as dame. Profit plan starts from after making sales budgeting. It is the first and essentials element of profit plan without preparation of sales plan profit plan can't be forwarded. Being the foundation of entire budgeting, it determines to large extent the success or failure of a budget. Unless the budget is developed with reasonable accuracy all the estimates in the operating and financial budgets will be misleading therefore, preparation of sales plan is very important to profit plan program. So, sales plan is called end and means of profit plan, which, is the sources for production budget and cash



budget. The sales plan is the foundation for periodic planning in the firm because practically all other enterprises are built on it. The primary sources to be planned. The manpower requirement the production level and other important aspects depend on the volume of sales.

#### **2.1.4 Goal Orientation and People Orientation**

##### **Goal Orientation**

Both business and non-business endeavors must have objectives and goals. In business endeavor, the primary goal orientations are 1) Return on investment and 2) Contribution to the economic and social improvement of the boarder environment. Likewise, non-business endeavors have specific objectives, such as the accomplishment of a given mission within specified cost constraints. In both cases, it is essential that the mangers of the endeavors, as well as other interested parties, know the objectives and goals. Otherwise, effective environment guidance of the activities are performed are impossible. Thus, the responsibilities of management to specify and articulated goals and objectives are fundamentally identical in business and no business enterprises (Welsch, 1992:2).

##### **People Orientation**

The success of an enterprise-business or other organization- depends on the people associated with the enterprise. These people include both the managers and the other employee, because all of these individuals are significantly involves in the attainment of enterprise objectives. Thus, “People constitute the most critical part of management- not land, buildings, equipment or materials. Developing an effective staff, providing a positive working climate and positively motivating people

determine in large measure, the success of most enterprises” (Welsch, 1992:2).

### **2.1.5 Profit Planning and Control (PPC)**

Profit planning is one of the most important managerial tools used to plan and control business operation. “The term comprehensive profit planning and control is defines as systematic and formalized approach for performing significant phase of the management planning and control functions. Specially, it involves:

- 1) The application and application of board and long – range objectives for the enterprise.
- 2) The specification of enterprise goals.
- 3) A long-range profit plan developed in broad terms.
- 4) A short-range profit plan detailed by assigned responsibilities (Division, products, projects)
- 5) A system of periodic performances report detailed by assigned responsibilities.
- 6) Follow up procedures” (Welsch, et.al, 1986:1).

“Profit planning is an example of short-range planning. This planning focuses on improving the profit especially from particular products over a relatively short period. Therefore, as used here, it is not the same as corporate planning of cost rendition program” (George, 1992:521).

Profit planning in fact is managerial technique and a profit plan is such a written plan in which all aspects of business operations with respect to definite future periods are included. It is a formal statement of policy,

plan, objective and goal established by top management in respect of some future period. Profit planning is a predetermined details plan of action developed and distributed as guide to current operation and as a partial basis for the subsequent evaluation of performance. Thus we can say that profit planning is a tool, which may be used by the management in planning the future course of actions and in controlling the actual performance.

In same way, profit planning has ultimate objective and goals assignment of responsibilities to fulfill the objectives, implementation of plan and the follow-up procedures for correction and adjustment in planning.

#### **2.1.6 Long-Range and Short Range Profit Planning**

While preparing a systematic profit plan, two types profit plans are developed:

- i) Strategic (Long-Range) Profit Plan
- ii) Tactical (Short Range) Profit plan.

Strategic (Long-Range) Profit Plan takes a time horizon of three or more than three years in future and the later for short period. A part of this plan is more or less informal as presented by tentative commitments made by the executive committee in the organizational planning season. “The long –Range plan covers all the key areas of anticipated activity sales, expenses, research and development, capital expenditure, cash, profit and return on investment” (Welsch,et.al,1992:132).

The tactical (Short-Range) or operational profit plan is developed by participative by all management levels. It can actually be viewed as the first year of the strategic profit plan. It is detailed plan for the enterprise

and for each of its responsibility centers. It defines the enterprise objectives to develop programmes policies and performance expectations. It involves timing that is intermediate range to short-range. It focuses on level of assigned authority and responsibility and provides “budget information” for performance report.

### **2.1.7 Projection of Sales Plan**

One of the most important elements is a budgetary control is a realistic sales estimate that is based an analysis of past sales and the present market. Let, the sales variables are often the budget component that is the most difficult to predict with reasonable precision. The demand for an entity’s product or services normally depends on forces and factors largely beyond the scope of management’s control. In most instances, this uncertainty makes expected sales that focal point of planning process (Imhoff, 1986:5-6).

The task of preparing the sales budget is usually approached from two different angles.

1. Judging and evaluating external influence and
2. Considering internal influence: These two influences are brought together in a workable sales budget. External influences include the general trend of industrial activity, actions of competitions, government policies, cyclical phase of the national economy, price-level expectation, purchasing power of the population, population shift and charged in buying habit and modes of living. Internal influences are sales trends factory capacity new products, plant expansion, seasonal products, sales estimates and establishment of quotes for sales people and sales territories (Usry, et.al.1988:432).

A sales budget is a projection of sales during budget period. It lays down the sales potentials in turn of quality value period area or product etc. It shows estimate of sales either gross or net sales. It is compiled after careful analysis and estimation of sales, selling allowances and selling and distribution expenses. Basically, a sales budget is based on sales forecasting which the responsibility of the sales manager is. The basic information for budgeting production costs, selling and distribution expenses. Basically a sales budgets is based on sales forecasting which is the responsibility of the sales manager. The basic information's for budgeting production costs, selling and administrative expenses are also provided by the sales budget: Opening inventory of finished Goods+ Production units (planned) = Total unit available - closing stock of finished Goods = Planned of actual sales (Adhikari, 2002:67)

Sales Plan is the starting point in the preparation of comprehensive profit and control. All the other plans and budgets are dependent upon the sales budget. The budget is usually presented in both units and dollars of the sales revenues or sales volume. The preparation of sales plan is based upon the sales forecast. A variety of methods are used to forecast the sales for the planning period (Holmes, et.al, 1970:687).

The primary purposes of sales planning are:

- To reduce uncertainty about future revenue.
- To incorporate management judgments and decisions into the planning process(e.g. in the marketing plan)
- To provide necessary information for developing other element of a comprehensive profit planned.
- To facilitate management's control sales activities

A comprehensive sales plan includes two separate but related plans. The strategic and tactical sales plan. A comprehensive sales plan in corporate such managerial decision as objective, goal, strategies and premises. These translate into planning decision about planned volume (unit or jobs) of goods and services, prices, promotion and selling efforts. In harmony with the comprehensive profit plan, both strategic long-term and tactical short –term sales plan must be developed. Thus the usual case is a 5 or 10 years for strategic sales plan and a one year for tactical sales plan(Welsch, 1992.:172-173).Comprehensive sales planning includes the following compartment: Management guidelines, sales forecast and other relevant information, and plans for marketing advertising and distribution expenses. It is the foundation of profit plan.

### **2.1.8 Control of sales and related expenses**

The development process and top management committee to a realistic sales plan provides the foundation for effective control of sales effort and distribution expenses, we have emphasized that the several components of the sales plan should specify management responsibilities because this is the basis for effective control.

Control is the sales function should be viewed as a comprehensive activity encompassing sales volumes, sales revenues, and promotion costs and distribution expenses. Effective control requires that both sales volume and distribution expenses be viewed as one problem rather than two separate and diverse issues. The sales plan gives the goals that are to be attained but the sales function. The top marketing executive has overall responsibility for control of the sales activities. Normally sales quotes for sales person should be consistent with the sales plan. Although in some cases, somewhat below realistic expectations however, in such

case the sales goals, expenses budgets, and other objectives include in the sales plan and should be realistic expectation control in the sales function, as in all other functions is attained by management action (Welsch,1992.:185-187).

The sales goals (Volume and Dollar (Rs) revenues), promotion plan (planned expenditure), 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 fact of the total control effort of the management. Example of specific standards that may be used for sales control purposes are:

- 1) Number of calls per period per sales person.
- 2) Number of new customers.
- 3) Number of new qualified prospects,
- 4) Dollar of direct selling expenses per sales person.
- 5) Number of order not honored.
- 6) Number of orders or calls made.
- 7) Dollars sales quotes per sales person per period.
- 8) Average size of orders.
- 9) Selling expenses as a percentage of sales Dollars.

Effective control of selling activities also requires periodic performance report by responsibility that includes both sales and expenses. Performance report should normally by prepared and distribution on a monthly basis however, certain critical sales activities (e.g. sales made)

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 e.g. the sales district performance report should show.

1. Performance is generating sales revenue.
2. Performance is controlling district distribution expenses and
3. Performance of other related activities under the direct control of the district sales manager. The performance report should compare actual result with planned result and report the variances. 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 report for the lowest level of management should report specific revenues and expenses by detailed classifications (product is 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 center (Bajracharya et al., 2066).

### **2.1.9 Sales Planning Compared with Forecasting**

Sales planning and forecasting are confused. Although related, they are distinctly different purposes. A forecast is not a plan rather it is a statement or a qualified assessment of future conditions about a particular subject (e.g. sales revenue) based on one or more licit assumptions. A forecast should always state the assumption upon which it is based. A forecast should be viewed as only one input into the development of a sales plan. The management of a company may accept, modify, or reject the forecast. In contrast, a sales plan incorporates management decision



about such related items as sales volume, prices, sales efforts, production and financing.

A sales forecast is converted to a sales plan when management has brought to bear management judgment, planned strategies, commitment of resources, and the managerial commitment to aggressive action to plan the sales goal. In contrast, sales forecasting is a technical staff function.

It is important to make a distinction between the sales forecast and 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 action on sales potentials is difficult to qualify for sales forecasting, therefore, the elements of management experience and judgments must hold the sales plan. Another reason for identifying sales forecasting as a only one step in sales planning is that sales forecasts are conditional. They normally must be as prepared prior to management decision or plan in such areas as plant expansion, price changes, promotional programmes, production scheduling, expansion or distribution of making activities and other resource commitments. The initial forecast and theses should usually be more than one to indicate probable sales under various alternative assumptions are in important source of information in the development of management strategies and resources commitments (Welsch, 1992:172-173).

One author emphasized the confusion between forecasting and planning as follows: 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 because this plan as a target for people in his organization (Armstrong, 1987:5).

The short-term sales forecast provides the basis for the current year's sales plan and finishes goods inventory plan. At the same time, the influence of the long-term sales forecast is reflected in the capital expenditure plan and is the finished goods inventory plan. The long-term sales forecast serves as what might be called the anchored of the finished goods inventory plan since inventory not the end of this year is the beginning inventory for next year business. It is necessarily influences by the long term forecast. The long-term sales forecast also provides the basis for developing, in rough outline, the capital expenditure budget. The short-term sales forecast and resulting sales plan look in two direction. The look outside the company to define the sales budget required obtaining sales income and they look inside the company to serve as the basis for the production plan. The planning is not complete until it meets the requirement in both directions (Thomas, 2003:178).

#### **2.1.10 Fundamentals of Profit Planning and Control**

The foundation for profit planning & control is that the management must have absolute confidence in its ability to established realistic objectives and to device efficient strategies to attain those objectives for the enterprise.

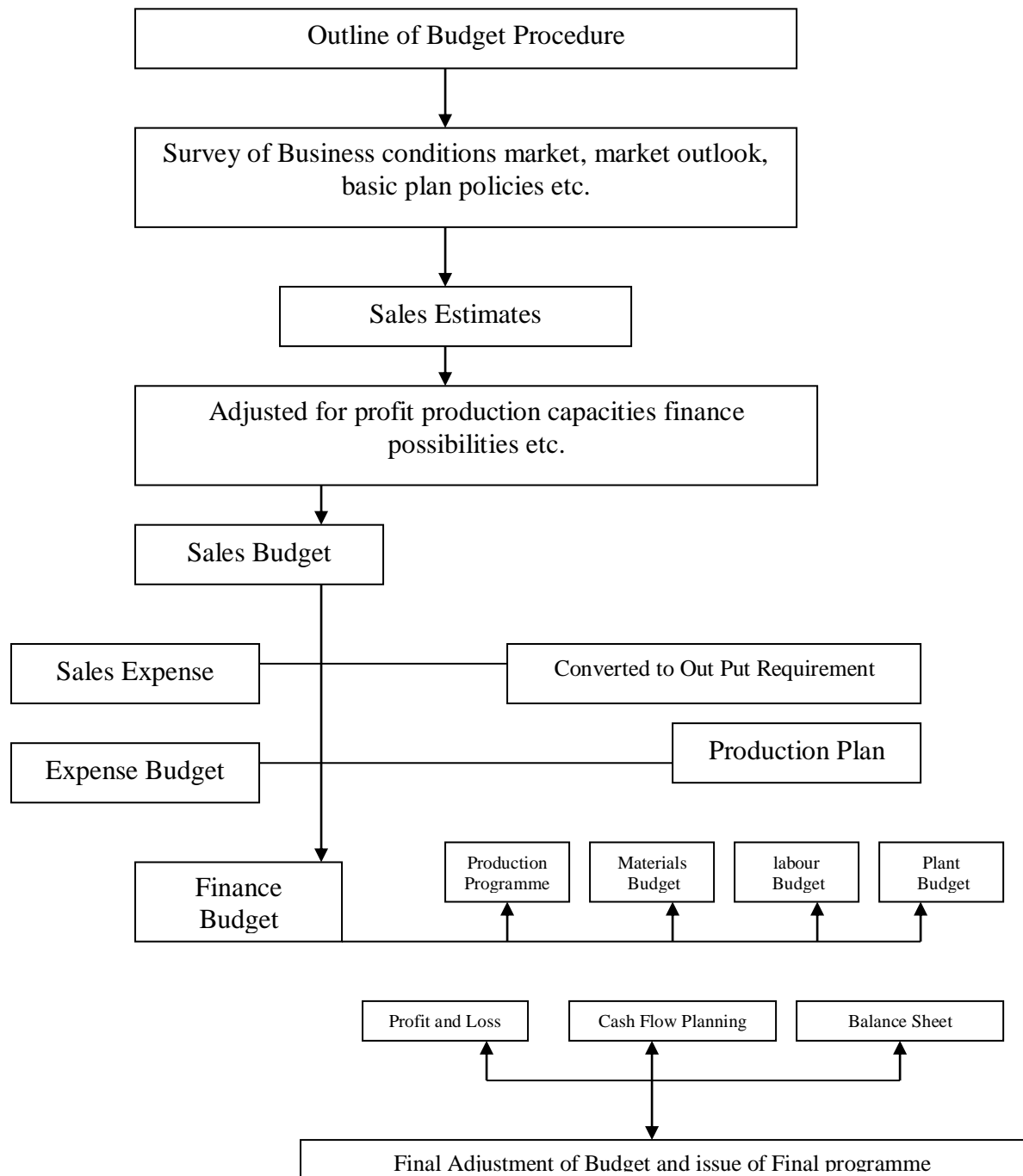
Basically, PPC offers a systematic practical and proven approach to the management process, properly viewed PPC is a comprehensive system to coordinate all aspects of the management process carefully knitting together the loose end of management and operation all- inclusive concept of PPC process is frequently minimized of completely overlooked in much of the literature and discussion the subject (Welsch,1986:29).

The fundamental concept of PPC includes the underlying activities or tasks that must generally be carried out to attain maximum usefulness from PPC. These fundamentals have never been confined. The concept and techniques of PPC have wide application in individual business enterprises governmental unit charitable organization and virtually all group endeavors.

### **2.1.11 Fundamental Distinction of Planning**

1. **The mechanics of PPC-** Mechanics are such matter as design of budget schedules clerical methods of completing such schedule and routing computations.
2. **The techniques of PPC-** The techniques are special managerial and methods of developing information for managerial use the design making process. The techniques are made varying from the simple to the sophisticated. Some of the more commonly used techniques are methods forecasting sales volume, break-even analysis, resource determination, cash flow analysis and variable budget procedure.
3. **The fundamental of PPC-** The fundamental concern effective implementation of the management process in reasonably complex endeavors. The fundamental represent desirable management orientations activities and approaches necessary for proficient and sophisticated application of comprehensive profit planning with regarding sales plan (Bajracharya, et al. 2066).

### 2.1.11.1 Outline of the fundamental concept of PPC



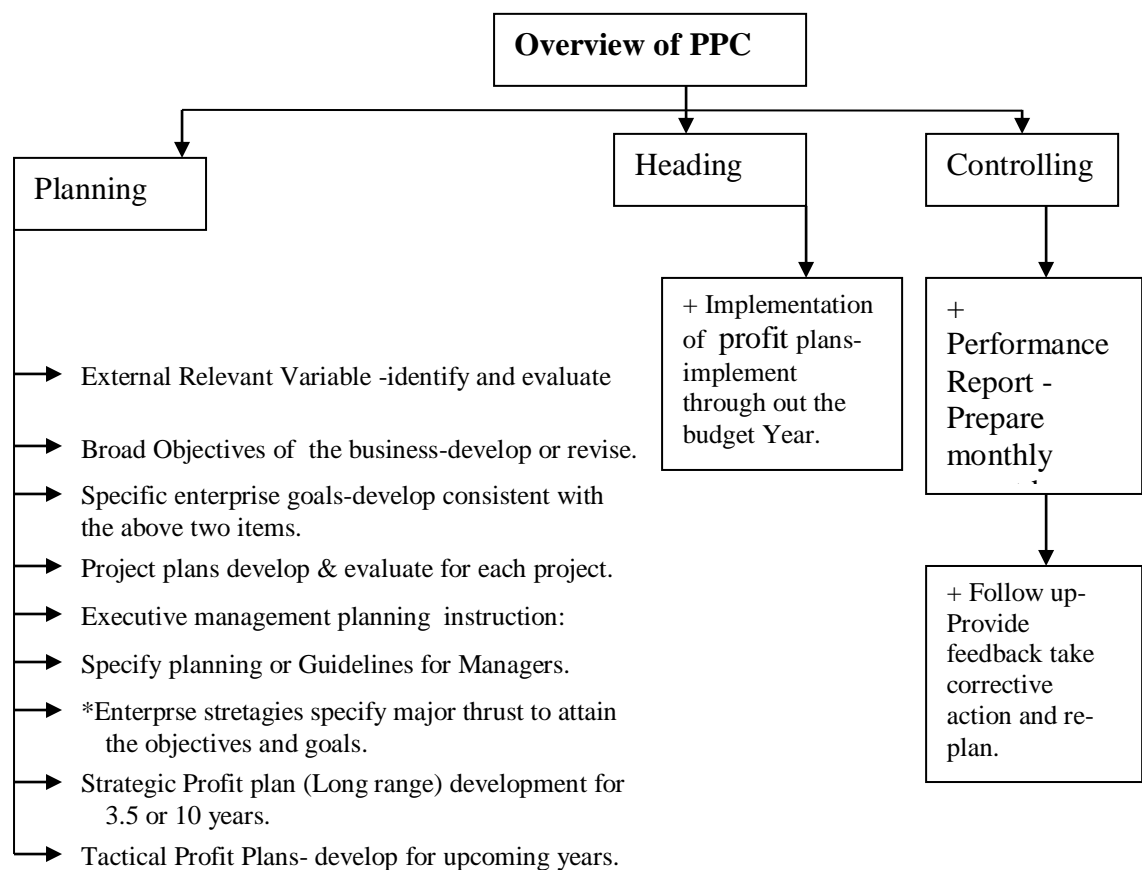
Source: Welsch, 1986:25.

### 2.1.11.2 Planning and Control Process

Planning and control process is a continuous is process of any enterprises development. It is like a cycle; therefore, it is never ended. It is necessary

integrates the planning, leading and controlling function of management. A PPC program includes more than the traditional idea of a periodic or Master budget. Rather it encompasses the application of a number of related management concepts through a variety of approached techniques and sequential steps. The term comprehensive means:

1. The application of the broad concept of profit planning and control to all phases of operations in an enterprise and
2. The application of the total system approach



Source: Welsch, 1986:45.

The planning process should involve periodic consistent and is – deptic- planning so that all aspects of operations are carefully re-examined and re-evaluated. It is repeated each budget year. Thus all the basic steps in the planning phase would be reviews and evaluated annually.

### **2.1.11.3 Component of typical PPC program, (for a given year)**

The previous written eleven steps of PPC process are closely related them to the six PPC components are given below (Welsch, 1992:74).

The substantive plan

1. Broad objectives of the enterprise.
2. Specific enterprise goals.
3. Enterprise Strategies.
4. Executive management planning instruction,(Planning premises).

B. The financial plan

1. Strategic Long-range profit plan
  - i. Sales, cost and profit projections
  - ii. Major projects and capital additions.
  - iii. Cash flow and financing.
  - iv. Personal requirements.
2. Tactical short-range (annual) Profit plan
  - i. Operational Plan: Planed income statement.
    1. Sales plan

2. Production (or merchandise purchase) plan.
  3. Administrative expense budget.
  4. Distribution expenses budget.
  5. Appropriate-type budgets (e.g. Research and development promotion, advertising.)
- ii. Financial- Position planed balance sheet.
    - a. Assets
    - b. Liabilities
    - c. Owner's equity
  - c. Variable expenses budgets:

Output expenses formulas.

D. Supplementary data:

(E.g. Cost volume profit Analysis, Ratio Analysis)

E. Performance Reports: Each month-end and as needed.

F. Follow up, corrective action and re-planning (Bajracharya et al, 2066).

### 2.1.12 Components of a Comprehensive Sales Plan (Welsch, 1992:176)

	Component	Strategies	Tactical Plan
1	Management policies and assumption	Board and general	Detailed and specific for the year.
2	Marketing plan(Sales and service revenues)	Annual amount, major groups	Detailed by product and responsibility
3	Advertising sand promotion 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 months and by responsibility.

### 2.1.13 Management Policies and Assumptions

A. The substantive plan: The substantive plan is represented by the

- Board objectives of the enterprises.
- Specific enterprise goal.
- Enterprise strategies.
- Executive Management planning instructions (Planning Premises.)

#### 2.1.13.1 Development of the Broad Objectives of the Enterprise

The statement of board objectives should express enterprise the mission, vision, and ethical character of the enterprise. Its purpose is to provide enterprise identity, continuity of Purpose and definition. One research



study listed the purpose of the statement essentially as follows (Welsch, 1992:78):

- 1) To define the purpose of the company.
- 2) To clarify the philosophy-character of the company.
- 3) To create a particular climate within the business.
- 4) To set down the guide for managers so that the decision they make will reflect the best interest of the business with fairness and justice to those concern.

Development of the board objectives of the enterprise is a responsibility of executive management. Based on a realistic evaluation of the relevant variables and an assessment of the strengths and weakness of the organization, executive management can specify or restate this phase of the PPC process.

#### **2.1.13.2 Development of Specific Goals for the Enterprise**

The purpose of this step is to bring the statement of board objectives into sharp focus statement to more from the health of general information to the confines of internal management. This component of profit planning program details specific short range and long range goats for the enterprise. This step provides definite and measurable goals for the enterprise and for each of the major subdivision for both the strategic long range profit plan and for the tactical short range profit plan annual. The statement of specific goals shows define such operation goal goats as expansion 7 or contraction of product and service lines, geographic areas, share of the market by major product service lines, grown trends, production goats, profit margins and return investment. These specific

goals in large measure are quantified and specified for each major subdivision of the enterprise (Poudel, 2001:27).

### **2.1.13.3 Development and Evaluation of Enterprise Strategies**

The company strategies are the basic thrusts, ways and tactics that will be based to attain planned objectives and goals. A particular strategy may be short term or long term, the purpose of developing and disseminating enterprise strategies is to find the best alternative for attaining the planned broad objectives and specific goals strategies focus on "How" therefore, they one line a plan of action for the enterprise. Executive management must be creative and directly involved in the development of new strategies and in the addition of currently on going strategy in harmony with the relevant variables with which management must cope. In the development of basic strategies for the enterprise, executive management must focus on identification of the critical areas that influences the long-range success of the enterprise. Critical areas should be pinpointed through evaluation of relevant variables. Here are some actual examples of basic strategies.

- 1) Increase long term market Penetration by using technology to develop new product & improve current proudest.
- 2) Emphasize product quality and price for the top of the market.
- 3) Expand marketing to all states in the USA. The company will not enter foreign markets in the foreseeable future.
- 4) Market with low price to expand Volume (Units)
- 5) Use both institutional and local advertising program to build market share.
- 6) Improve employee morale and productivity by initiating a behavior management program (Welsch, 1992:78).

### **2.1.13.4 Preparation of Planning Premises**

Planning premises explain the broad objectives enterprises goals, enterprises strategies, and any other executive management instruction

needed to develop the strategic and tactical profit plans. Planning premises, issues by the top management communicate the planning foundation that is necessary for the participation of all levels of management in the development of the strategic and tactical profit plan for the up coming but the executive leadership is fundamental in developing and articulating this planning foundation, including the formation of relevant strategies consequently at this point in the planning process, the foundation has been established to articulate the broad and specific objectives of the enterprises and strategies that facilitated their attainment (Welsch,1992:79).

#### **2.1.14 Marketing Plan**

B. The Financial plan: The financial plan is represented by the

- i. Strategic long-term profit plan
  - a. Sales, cost and profit projections.
  - b. Major projects and capital additions.
  - c. Cash flow and financing
  - d. Personal requirement.
- ii. Tactical short-range (annual) Profit plan
  - a. Operating Plan

Planned income statement:

- sales plan
- production (or Merchandise Purchase) plan
- Administrative expenses budget.

The process of developing a realistic sales plan should be unique to each company because of the company's characteristics its product its distribution channel the competence of its marketing group. For different participative approaches sales force composite (Maximum Participation) is widely use.

#### **2.1.14.1 Sales Force Composite**

This approach emphasizes the judgment and executive of the sales force because of provides for a series evaluation and approval. A high level of participation, form the bottom up, is emphasized. The approach is limited primarily to tactical short-term sales planning. It can be outlines as follows (Bajracharya et al, 2066).

- 1) The home sales office provides districts sales offices with a record of previous sales and any new or revised managerial policies that are relevant to the sales districts in marketing sales estimates for the planning period. Usually, the historical sales data are listed of a started from the provide space to record the estimate sales.
- 2) Sales person are requested to fill in their estimate bases on the historical data and their knowledge of the particular territory and customers sales person are usually asked to base their estimate on current economic condition. When a sales person provides dollar estimate as well as units, the current selling prices are usually applied.
- 3) Estimate made by the sales persons are reviewed by the district sales manager. The form previously mentioned provides space or revision of each sales person's estimate the district manager. Each district sales manager to the top sales executive transmits the two estimates by a specified date.
- 4) The various district estimates are reviewed and revised by the top sales executives significant revision should be discussed with the district sales managers concerned. The top sales executives may also convert the quantity estimate to dollar estimates by applying unit selling prices consistent with the revised managerial pricing policies. The sales executives working in co-operation with the company economist or with others, who have responsibility for appraising the general economic outlook, adjust the sales estimates for these

factors. Because general economic conditions can effect, the sales potential markedly serious consideration must be given to this important factors in developing the sales plan.

- 5) The tentative sales plan is then presented to the executive committee and to the president for consideration and tentative approval. At this level, the results of steps 2 and 3 are considered and may result in revision. The deliberations at this level should be primarily concerned about the soundness of the unit and dollar estimates and may result in tentative approval, tentative approval with certain changes or instruction for a complete or partial reconsideration of the sales potentials. The sales plan is also judged by whether it is within the capacities of the company
- 6) After tentative approval, copies of the tentative sales plan are distributed to the managers other functional sub-division so that other planning activities can be stated. As the overall profit plan is developed, it may be necessary to reconsider the tentative sales plan in some respects. This balancing of consideration, and the resulting revision in the profit plan as it is being developed, should provide a realistic plan of operation for the company.
- 7) The final plan is distributed through the sales function. It is then the basis for sales quotas and day by day planning in sales activities. In this approach, the promotion, advertising and distribution expenses components are concurrently developed during the process, as out lines above for the total marketing plan.

#### **2.1.15 Advertising and Promotion Plan/Distribution (Selling) Expenses**

- Production (or merchandise purchase) plan.
- Administrative expense budget.
- Distribution expense budget.

- Approval type budget(e.g. Research and development, promotion, advertising)

Sales division Manager Composite: This approach emphasizes the responsibilities of the district or product sales managers rather than the individual sales person. This approach is commonly used for short-term sales planning. It operates in a manner almost identical with that outlined above for the sales force composite approach except that the initial sales estimates are prepared by the sales managers rather than by the sales persons. This method is widely used by companies of all sizes.

#### **2.1.16 Planning Distribution (Selling) Expenses**

Distribution expenses include all costs are related to selling distribution and delivery of products to customers. In many companies this cost is significant percentage of expenses careful planning of such expenses effect the profit potential of the form.

Fundamentally the top marketing executive has the direct responsibility for planning the optimum economic balance economic (for profit potential) between (1), the sales budget (2) the advertising budget, and (3) the distribution expenses budget. Therefore, profit Planning and control views, advertising and distribution expenses as one basic problem rather than as three separate problems. This view is logical because of the interrelationships between them. The sales budget rests solidly upon the promotional programme. The amount of expenditure to get a given amount of sales revenue is limited. The practice of some companies of starting with a sales goal, then budgeting a fixed percentage of those revenues of sales overhead, another fixed percentages for direct marketing expenses, and still another fixed percentage for advertising is not a positive management approach to a serious planning problem. In

contract the sales executives in well managed companies, working as a group, develop the marketing and marketing promotional, and distribution expenses plans simultaneously. Next, the expenditure essential to carryout the promotional, marketing, a distribution phase planned. These expense estimates then become as important part of the input data for the profit plan. Although practice various, these decision input are separately included in (1) the promotion and advertising plan and (2) the budget of selling expenses.

Distribution expenses include two major types: 1) home-office expenses and 2) field expenses. From the planning and control point of view, these expenses must be planned by responsibility center.

In some cases, the planning structure should follow the basis on which the sales effort is organized. The concepts of controllable verses non controllable cost fixed verses variable costs and itemization by types of expenditure should be in planning & controlling distribution expenses.

**Preparing Distribution (selling) Expenses Budgets:** Distribution expenses are not product costs and are not allocated to specific products. A separate distribution expenses plan should be developed for each responsibility center 1 the distribution function. Typically this would encompass "Home-Office" center and "Field" Center. The top marketing executive has the overall responsibility for developing the distribution expenses plans or budgets. Following the principal of participation the management of each responsibility center should be assigned direct responsibility for that department's distribution expenses plan. Thus, the promotion manager should be responsible for developing the promotion plan, as the field sales managers should be responsible for developing both their marketing plans and their distribution expenses budget. The

distribution expenses budgets should separately identify controllable and non-controllable expenses, and these budgets should be detailed by interim time period. The distributing expenses budgets prepared by the sales managers should be on a planned volume of activity or output. Usually the preferable activity base for the various responsibility centers in the distribution function is sales dollars.

Various approaches are used to determine the promotion and advertising appropriation. The more commonly used approaches can be characterized as (a) arbitrary appropriation (b) all-available funds (c) competitive party, (d) Percentage of sales, (e) fixed per unit, (f) previous years profits, (g) Return on investment and (h) the task methods (Bajracharya, et al., 2066).

The promotion and advertising budget should be the direct responsibility of the advertising manager. The detailed promotion budget should be presented to the committee along with the sales budget. These two plans should be approved or disapproved as a unit. In this way, the budget department receives red-tailed and approved promotion budget for incorporation into the over or profit plan (Bajracharya, et al. 2066).

### **2.1.17 Planning Administrative Expenses**

Administrative expenses included those expenses other than manufacturing and distribution. They are incurred in the responsibility centers that provide supervision of and service to all function of the enterprise, rather than in the performance of any one function. Because a large portion of administrative expenses is fixed rather than variable, the nation persists that they cannot be controlled. Aside from certain top management salaries, most administrative expenses are determined by management decision. It is common to find administrative expenses are determined by management decision. It is common to find administrative



expenses "top heavy" when measured by the volume of business done. In recent years some informed observers have expressed the opinion that a developing characteristic of industry in the United States is the relative high cost of administration. These expenses, along with, labor costs, have frequently made it difficult to price products competitively in the international markets. Market administrative expenses are closed to top management; therefore, there is strong tendency to overlook their magnitude and effect on profits. Each administrative expense should be directly identified with the responsibility center, and the center manager should be responsible for planning and controlling the expenses. This fundamental of expenses control is especially important for administrative costs because there is often a failure to pinpoint responsibility for expenses of a general nature. For this and other reasons, many companies have found it helpful to apply the fixed variable expense concept to administrative expenses. In such cases, the variable expenses are usually related to total sales dollars (Bajracharya et al., 2066).

## **2.2 Review of Previous Research Work**

In this study has been included those study which related to DDC from various research but very few dissertation have been submitted to this fields of profit planning of Nepalese public enterprises with their objective, findings of Nepalese public enterprises with their objectives, findings conclusion & recommendations which are as follows:

**Parajuli (1991)** has conducted research about profit planning in manufacturing public enterprises for this study two public enterprises have been selected for case study and these are Bansbari leather shoe factory & Dairy Development Corporation. In this study he has attempted to point out some features and the problems of profit planning. Revealing

practices and premises for implementing profit planning in these two manufacturing public enterprises.

The basic objectives of his research work to:

- a) Examine how for the profit planning system of BSL factory Ltd. And DDC has been applied.
- b) Sketch the trend of profit planning in BLS factory Ltd & DDC.
- c) Draw a picture of planning diversification (Utilization resources).
- d) See the BLS factories and DDC's profit planning in the basis of overall managerial budgeting.
- e) Examine the course lying (Make As statement) behind the managerial problem of profit planning.

For accomplishing the above stated objectives, Mr.Parajuli has made his research covering the time period of seven years from 2038/39 to 2044/45. Research methodology was followed through primary sources of data with the help of questionnaire and personal interview and secondary sources of data for data gathering procedure.

Mr. Parajuli concludes that these two PEs were adopting profit planning on an unrealistic premise, resource were inefficiently utilized and management was occupied by false perception that they are highly end owned to adopt comprehensive profit planning based on overall managerial budgeting, he has pointed out various findings and recommendations and amongst them, few major findings and recommendations are as follows:

- i. Enterprises have sales and production plan but not any specified financial plan.

- ii. There is lack of proper profit planning, especially sales planning on the basis of customer's need and demands.
- iii. Very few managers are competent to identify the relevant factors variables and manipulate them for the successful formulation and implementation of the plan.

There is no any practice of profit planning so must be necessary to practice profit planning.

**Dumre (1997)** has submitted a research about profit planning practices in Nepalese public enterprises. For this study "Dairy Development Corporation" a public enterprises has been taken into sample. He has tried to answer of certain questions as well as practices of profit planning and mainly concern with DDC PEs and examine that is what these PEs is applying comprehensive profit planning in DDC was highlight the current [practice of profit planning in Nepalese public enterprises.

The specific objectives of his research work were:

- a) To describe the scenario of DDC in Nepal from its inception to the present study.
- b) To analyze statistics on DDC to identify trends over time in such variable as levels of output (Volume and value) prices costs of production of output (Cow and Buffalo) profitability.
- c) To analyze the trend of milk and milk products, collection, production and sales.
- d) Based on the finding of the analysis provide the suggestion and recommendations for improving profit plan.

Mr. Dumre has pointed out various findings based on the analysis of data and information and information few major findings of the conclusion of the study are as follows.

- 1) In Nepalese manufacturing PEs plan and is prepared on adhoc basis, which is also applicable, in case of DDC. Without analysis of the environment, the objectives are set by the DDC, which are not suitable or appropriate.
- 2) Sales achievement is too below that sales target. Past trends of sales plan and achievement are not efficient in forecasting the sales diary products because the increase of demands may affect by various causes. This also signals that sales plan does not made by considering all components affecting sales.
- 3) The milk payment system to farmer is based on fat percentage, cow milk, which has low percentage of fat as compared to buffalo milk; DDC has separate pricing system for cow milk.
- 4) The amount of profit earned by DDC is not satisfactory. It is unable to earn reasonable amount of profit. There is no proper planning of cost control mechanism and performance reporting and there is no also the system of reward and punishment.

**Pahari (2000)** has submitted a research about “Profit Planning of dairy Development Corporation” in year 2000. The main objective of present study is to examine the technique or approaches of comprehensive profit planning system apply by DDC and to the achievement of planning. The special objectives are as follows;

- To examine the present profit planning premises adopted by DDC.

- To analyze the various functional budgets that is prepared by DDC.
- To sketch the trends of profit and loss of DDC.

For accomplishing the above stated objectives Mr.Pahari has taken a time period for 5 years from F/Y2051/52 to 2055/56.Data were taken from secondary as well as primary. Various statistical tools have been used to analyze the data. His study pointed various findings based on the analysis of data and information's; few major findings of the conclusion of the study are as follows:

- 1) DDC has collected milk by only 39 districts and distributed their products only a few urban cities.
- 2) The collection, production and sales of milk products have smoothly increasing trends.
- 3) DDC has not able to grant the loan to the farmer's requirement.
- 4) A systematic flow plan hasn't prepared.
- 5) The corporation has not prepared the periodic performances report.
- 6) The pricing policies of the corporation are not scientific and the government directly interferes to the price of raw milk and milk products.

**Thapaliya (2001)** has submitted a research about comprehensive budgeting in manufacturing enterprises. For this study 'Dairy development corporation 'a public enterprise has been taken into sample. The present study highlights the application of detailed and systematic approach of profit planning and analysis the effectiveness, problems and solution of the problems in prospects of DDC.

A research work conducted by Tilak Bahadur Thapalia (2001, T.U) on “A study of DDC” has following objectives:

- To analyze the marketing (Sales) plan.
- To evaluate the financial performance of DDC.
- To trace out a practice of profit planning process adopted in DDC.

Mr. Thapaliya has pointed out various findings based on the analysis of data and information; few major findings of the study are as follows:

- 1) The management of DDC applied annual sales and production budget. There is a substantial gap between sales target in planning and achievement each year.
- 2) Objectives of DDC are not clear and measurable. Top-level management executive are only involve in planning and decision.
- 3) DDC should focus on the milk products market. It should think to increase the market of the other milk market to subsidize the loss incurred through selling of the market.
- 4) Purchasing price of milk set by government is accordance with the recommendation of NDDB. Price of the other products is set by DDC.

**Poudel (2005)** has submitted a research about ‘Sales Planning in Dairy Development Project, Pokhara Branch in Year 2004. The main objective of his study is to examine the managerial process of DDC, Pokhara and to examine the effectiveness of sales planning. The special objectives area as follows:

- To examine the formulation and implementing procedure of sales plan DDP, Pokhara.

- To identify the managerial process of DDP, Pokhara.
- To suggest and recommend the systematic sales plan for DDP, Pokhara.

His study pointed out various findings based on sales analysis of data and information's, major findings of the conclusion of the study are as follows:

- 1) To achieve the basic objectives, DDC has not been clearly defining its main objectives in annual goal or target.
- 2) DDC has not followed participate management, even middle level of management or not participated in policy making.
- 3) Research and development and growth of sales are still not targeted.
- 4) Sale plan is a primary of profit planning other planning depends upon sales plan but DDP, Pokhara depends on production plan.
- 5) There is only annual target is supplied by the top management for major department. There are no details and formal guidelines to the lower level management or departmental manager for the purpose of developing profit plan which also seen in DDP, Pokhara.

**Shrestha (2008)** 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 period selected for this is for only seven years i.e. from F/Y 2053/054 to 2061/62. Data were taken from primary source as well as secondary. Various statistical tools have been used to analyze the data. Mr. Shrestha, has pointed out various findings based on the analysis of data and information's; few major findings of the conclusion of the study are as follows.

- 1) DDC has not practice of variance analysis.
- 2) The actual sales are lower than BE sales on research period that means it has not considered BEP.
- 3) 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.
- 4) DDC has not separate planning department and planning expert.
- 5) The gap between actual production and actual sales is high.

**Khadka (2010)** has submitted to his thesis on the topic 'sales and production and its impact on profitability of DDC' the primary purpose of his study also to examine /evaluate the sales and production budgeting practices and policies of DDC.

The research work conducted by Khadka has following objectives:

1. To evaluate the budgeted and actual performance of DDC.
2. To analysis the financial performance of DDC.
3. To assess the capacity utilizing of DDC.

Mr. Khadka has pointed out various findings based on the analysis of data and information; few major findings of the study are as follows:



1. DDC has practiced short term planning rather than long term planning. The time period covered by the planning is one year, detailed by interim time period by the project.
2. There are not proper sales forecasting methods. Sales forecasting are done on the basis of personal judgment of high level management of various responsibility centers.
3. There is no proper management to supply milk in urban areas.
4. Pricing policies of the corporation is not scientific and the government interferes on the price of raw milk and milk products. The board of DDC seems as a show price.

### **Research Gap**

By the study and analysis of the previous research work it is found that the objectives of the DDC are assigned by Nepal Government as well as there is not adequate co-ordination and realization of objectives between the different level of managers. The communicating system among the different level managers is very weak. The Nepal Government has taken the authority in every activities of the corporation, less interfere in monitoring and evaluating, punishment and rewarding system according to their performance is negligible. The planning system is in traditional way, there is not adequate study about external and internal relevant factors, not tried to adopt the new technology for the improvement of quality of products, it has not plan to evaluate the profitability of each product separately. There is not clear record of each product contribution on profit. There is not complete and comprehensives budgeting system. There is little practice of profit planning so must be necessary to practice the comprehensive profit planning and control.

## **CHAPTER-III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The basic objectives of this study is to highlight the degree of application of profit planning concept of manufacturing public enterprises with respect to different plans or budgets, especially for sales plan. In order to attain the objectives maintained in this research study, the following methodology have been employed.

#### **3.2 Research Design**

This research work has followed historical as well as descriptive research design to analyze and interpret the collected information.

The present work is related with the qualitative and quantitative analysis of sales plans and the records of DDC. So, analytical approach has been adopted. The qualitative aspect of research, such as effectiveness of sales planning process, view of personnel of DDC and the theoretical prescription are explained systematically.

#### **3.3 The Population and Sample**

This research work is related with sales planning aspect of dairy development corporation. So the total present number of public enterprises in Nepal is the population of this study.

Due to various constraints, like time, resources, etc the researcher has conveniently selected only one PE for the purpose of the research work, which is DDC.

### **3.4 Period covered**

The researchers have analyzed seven years data from F/Y 060/61-066/67.

### **3.5 The Data Gathering Procedure:**

The required data and information were collected from the secondary as well as primary sources. As far as practicable both primary and secondary data have been collected.

**Primary Data** comprises those interviews taken with the staffs of DDC and the questionnaire provided to the staffs of DDC, Central office. Altogether 25 questionnaires were distributed, however, only 15 were collected duly from the respondents.

**Secondary Data** are gathered from sources such as official reports of DDC, magazines and publications, journals, concern documents, sales budgets and achievements, previous studies made in this field etc.

### **3.6 Methods of Data Analysis**

The collected raw data were managed and analyzed in proper table and format. Interpretation and explanations were made wherever necessary.

To analyze the collected data statistical tools such as mean, S.D, Correlation coefficient, coefficient of variation, percentage etc are used.

**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 we get by dividing the total of the values of various items in series by the total number of items

We can work it out as under

$$\text{Mean } (\bar{X}) = \frac{\sum X_i}{n} = \frac{X_1 + X_2 + \dots + X_n}{n}$$

Where,  $\bar{X}$  = the symbol we use for mean

$\Sigma$  = summation,  $X_i$  = value of  $i$ th 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 we calculated in order to examine relation between targeted and actual data in various items.

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

$$PE(r) = 0.6745 \frac{(1-r)^2}{\sqrt{n}}$$

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 for actual data as well as budgeted data's of different milk products. It is worked out as under:

$$\text{Standard deviation } \sigma = \sqrt{\frac{\sum (X_i - \bar{X})^2}{N}} = \sqrt{\frac{1}{n} \sum x^2}$$

and  $\sqrt{\frac{1}{n} \sum y^2}$

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

**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:

$$C.V = \frac{\sigma x}{\bar{X}} \times 100\%$$

Where C.V. = Coefficient of Variation

σx = Standard deviation

$$\bar{X} = \text{Arithmetic Mean}$$

### 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.

### 3.6.7 Time Series Analysis

"Time series analysis shows the relation between two variables, on being the time. It helps in understanding the pass behavior of a variable in the time series. Further, it helps in future forecasting and evaluating the present accomplishment."

$$Y = a + bx,$$

$$\text{The calculated, } a = \frac{\sum y}{n} \quad b = \frac{\sum xy}{\sum x^2}$$

### 3.7 Research variables

The substantial plan, financial plan and sales of dairy products mainly relating to long-term and short-term period of DDC are the variables of the present study.

## **CHAPTER-IV**

### **PRESENTATION AND ANALYSIS OF DATA**

This is the main part of the thesis which deals with the managerial process i.e. implementing procedure of sales plan in DDC for that purpose the data are collected from top and middle level staffs through distributing questionnaires. 25 questionnaires were distributed, among which 15 responses have been received and the managerial activities for planning sales have been analyzed with the help of their responses.

#### **4.1 Analysis and developing the sales plan**

The sales planning process is necessary part of profit plan because it provides for the basic management decision about the marketing and based on that decision, it is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic, then all of other parts of the over-all profit plan will not be realistic. Therefore, if the management believes that a realistic sales plan cannot be developed; there is little justification for the profit plan.

There is no problem for sales or marketing in Nepal for milk and milk products, Supply side is more important than demand side because the Nepalese manufacturing PEs are not in position to fulfill the national demand. The demand of milk and milk products in urban site of Nepal is very high than the supply of milk and its products; this is the situation of market in Nepal.

The manufacturing PEs in Nepal is facing many difficulties from the planning of sales. The public enterprises have a chronic problem of top-level management commitment and serious attention and resource planning. In an enterprise, fixing the sales target without consideration of enterprises objectives, strategies and sales forecasting techniques is common in practice in PEs of Nepal.

### 4.1.1 Long-range sales plan of Dairy Products

**Table 4.1**  
**Sales Target & Achievement (DDC, Annual reports)**

S.No	Product	2061/62	2062/63	2063/64	2064/65	2065/66	2066/67	2066/67
1	Milk Sales Target (Ltrs)	59741000	59812000	61961000	64217000	65465000	69050000	61481000
	Achievement	55645157	56357176	57764000	60276000	57492000	59317000	56983000
	(Achievement %)	93.14	94.22	93.23	93.86	87.82	85.90	92.68
2	Makhan Sales target (Kgs)	358500	361700	351800	311000	318000	288000	195500
	Achievement	300192	285314	302000	287000	232000	170000	189600
	(Achievement %)	83.74	78.88	85.84	92.28	72.96	59.03	96.98
3	Curd Sales target (Ltrs)	980000	889500	935000	951000	1101000	1182000	850150
	Achievement	890538	981575	1006000	1057000	1102000	985000	904000
	(Achievement %)	90.87	110.35	107.59	111.15	100.09	83.33	106.33
4	Cheese Sales target (Kgs)	182750	227400	225000	181000	184000	241000	230800
	Achievement	146780	140038	145000	150000	161000	143000	184000
	(Achievement %)	80.32	61.58	64.44	82.87	87.50	59.34	79.72
5	Ghee Sales target (Kgs)	958038	736000	752000	899000	943000	917000	983100
	Achievement	479904	709786	931000	842000	704000	644000	913000
	(Achievement %)	50.09	96.44	123.80	93.66	74.66	70.23	92.87
6	Paneer Sales target (Kgs)	31000	39000	43360	48000	67000	132000	120960
	Achievement	30660	29500	49000	62000	70000	50000	83000
	(Achievement %)	98.90	75.64	113.01	129.17	104.48	37.88	68.62
7	Ice-Cream Sales target (Kgs)	50266	38500	35000	39000	42000	81600	100700
	Achievement	32750	27620	31000	32000	38000	39000	85000
	(Achievement %)	65.15	71.74	88.57	82.05	90.48	47.79	84.41
8	Cream Sales target (Ltrs)	28000	41000	38000	32000	28000	39000	22800
	Achievement	33000	31000	27500	24700	21500	53700	17300
	(Achievement %)	117.86	75.61	72.37	77.19	76.79	137.69	75.88



Table 4.1 shows that there is no realistic and scientific sales plan. The sales plan is rarely satisfactory for the some product and not good for few products. In only few year and few products the achievement has been greater the target. But, in most of the year and products actual sales is below than target and sometimes –target sale have not deals with actual sales. There is neither continuous increment nor decrease. It seems that the performance of planning section of DDC is poor and it prepares the sales plan on adhoic basis. DDC is unable to forecast the future. There is the weakness of the organization.

Above table is further separated more effectively by the following tables and bars and they have been analyzed.

#### **4.1.1.1 Milk Sales Target and Achievement (in Liters) From F/Y 060/61 to 066/67.**

**Table 4.2**  
**Milk Sales Target and Achievement (in liters.)**

Fiscal Year	Target	Achievement
2061/62	59741000	55645157
2062/63	59812000	56357176
2063/64	61961000	57764000
2064/65	64217000	60276000
2065/66	65495000	57492000
2066/67	69050000	59317000
2066/67	61481000	56983000

**Source: DDC, Annual Reports**

According to table 4.2, it is clear that the ratio of achievement of the targeted is not consistent. There is neither continuous increment in the achievement nor decrease. The best achievement is in Year 061/62, which is 94.22% of the target. The management (board) of DDC is trying to

implement a follow-up procedure in planning of sales but as the number of private dairies are increasing the result is not as desired.

#### **4.1.1.2 Makhan Sales Target and Achievement (in kgs) From F/Y 060/61 to 66/67.**

**Table 4.3**  
**Makhan Sales Target and Achievement (in kgs.)**

Fiscal Year	Target	Achievement
2061/62	358500	300192
2062/63	361700	285314
2063/64	351800	302000
2064/65	311000	287000
2065/66	318000	232000
2066/67	288000	170000
2066/67	195500	189600

*Source: DDC, Annual Reports*

Table 4.3 shows that the target and achievement of sales of Makhan is satisfactory despite in year 2065/66 and 2066/67. The best achievement is in year 2066/67, i.e. 96.98% of the target. If quality and distribution is regularly followed then Makhan's sale is definitely going to boom. From the above table it can be concluded that achievement in all the years have less than target sales of Makhan.

#### **4.1.1.3 Curds sales target and achievement (in Liters) From F/Y 060/61 to 066/67**

**Table 4.4**  
**Curds sales target and achievement (in liters.)**

Fiscal Year	Target	Achievement
2061/62	980000	890538
2062/63	889500	981575
2063/64	935000	1006000
2064/65	951000	1057000
2065/66	1101000	1102000
2066/67	1182000	985000
2066/67	850150	904000

*Source: DDC, Annual Reports*

From table 4.4, it can be said that the sales of curd is good. Achievement is extremely well. Although target is not gradually increasing. Except in

the year 2066/67, the achievement is greater than expected. This may be due to conflict in management, competition with private diaries etc.

#### **4.1.1.4 Cheese sales target and achievement (in kgs) From F/Y 060/61 to 066/67.**

**Table 4.5**  
**Cheese sales target and achievement (in Kg)**

Fiscal Year	Target	Achievement
2061/62	182750	146480
2062/63	227400	140038
2063/64	225000	145000
2064/65	181000	150000
2065/66	184000	161000
2066/67	241000	143000
2066/67	230800	184000

*Source: DDC, Annual Reports*

From table 4.5, it is seen that the planning does not prove to be good as there is not good achievement in any year. The achievement is always less than the targeted or budgeted. The evaluation of the achievement of the running year is the key to plan for the next, which is not applied here. The best of achievement is in year 2065/66 which is (87.50%) although it is less than targeted. From the above table it can be concluded that in all the fiscal years achievement is less than target sales of cheese.

#### **4.1.1.5 Ghee Sales Target and Achievement (in kgs) From F/Y 060/61 to 066/67**

**Table 4.6**  
**Ghee Sales Target and Achievement (in kgs.)**

Fiscal Year	Target	Achievement
2061/62	958038	479904
2062/63	736000	709786
2063/64	752000	931000
2064/65	899000	842000
2065/66	943000	704000
2066/67	917000	644000
2066/67	983100	913000

*Source: DDC, Annual Reports*

Table 4.6 shows that the achievement of ghee sales exceeds the targeted only in the year 2063/64 but in other years it is less than targeted. Although in the year 2066/67 and 2062/63 the achievement is satisfactory (i.e. more than 90% of the targeted). But in other years the achievement is not at par. This is due to neck to neck competition with private dairies and quality also. From the above table it can be concluded that achievement of ghee sales is less than targeted sales of ghee in all fiscal years.

#### **4.1.1.6 Paneer sales target and achievement (in kgs) From F/Y 60/61 to 66/67.**

**Table 4.7**

**Paneer sales target and achievement (in kgs.)**

Fiscal Year	Target	Achievement
2061/62	31000	30660
2062/63	39000	29500
2063/64	43360	49000
2064/65	48000	62000
2065/66	67000	70000
2066/67	132000	50000
2066/67	120960	83000

**Source: DDC, Annual Reports**

Table 4.7 shows that the achievement in the year 060/61, 062/63,063/64,064/65 is excellent whereas in the year 065/66 and 066/67 achievement is not satisfactory. It is far behind than targeted. There need to be revision in sales planning of paneer. Because of private sector producing better quality product or their marketing is good the sales of paneer may have decreased. From the above table it can be concluded that all the achievement is less than targeted except in fiscal year 2065/66.

**4.1.1.7 Ice-Cream Sales target and achievement (in Liters) From F/Y 60/61 to 66/67.**

**Table 4.8**

**Ice-Cream Sales target and achievement (in Liters.)**

Fiscal Year	Target	Achievement
2061/62	50266	32750
2062/63	38500	27620
2063/64	35000	31000
2064/65	39000	32000
2065/66	42000	38000
2066/67	81600	39000
2066/67	100700	85000

*Source: DDC, Annual Reports*

Table 4.8, reflects that the sales of ice-cream's achievement is never meeting the target in any year. The achievement from 060/61 to 2066/67 is always less than targeted. So there needs a review in ice-cream's sales. This is due to the neck to neck competition of the private sector and poor marketing. From the above table it can be concluded that all the achievement is less than targeted sales of ice-cream.

**4.1.1.8 Cream sales Target and Achievement (in Liters) From F/Y 060/61 to 66/67.**

**Table 4.9**

**Cream Sales Target and Achievement (in liters.)**

Fiscal Year	Target	Achievement
2061/62	28000	33000
2062/63	41000	31000
2063/64	38000	27500
2064/65	32000	24700
2065/66	28000	21500
2066/67	39000	53700
2066/67	22800	17300

*Source: DDC, Annual Reports*

Table 4.9 shows that in the F/Y 2061/62 and 2066/67 the sales of cream has been extremely good i.e. achievement in more than target but in the other years it is less than targeted. Targets and achievement both are not in a gradually decreasing or increasing order.

#### 4.1.2 Karl Pearson's Coefficient of Correlation (r )

In data analysis and examining activities the projected and planned data are comparatively fitted in various forms. The basic purpose of computing coefficient of correlation is to justify whether the planned data are 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 we can use this tool. It has been calculated in appendix no (10-17)

Probable error (P.E) of the coefficient of correlation:

P.E of 'r' is useful in interpreting the value of 'r'. If 'r' is more than P.E, there is correlation. If 'r' is more than 6 times its P.E. and greater than +0.5 then is considered significant.

**Table 4.10**  
**Coefficient of correlation and Probable error of coefficient of correlation:**

<b>Appendix No</b>	<b>Dairy Products</b>	<b>Coefficient of correlation</b>	<b>Probable error of Coefficient of Correlation</b>
10	Milk	0.741	0.1149
11	Makhan	0.793	0.0946
12	Curd	0.4123	0.2115
13	Cheese	0.0159	0.2548
14	Ghee	-0.2068	0.24403
15	Paneer	0.5757	0.17044
16	Ice-Cream	0.8527	0.0375
17	Cream	0.6188	0.1573

Table 4.10 shows that there is a positive correlation between planned milk and actual milk sales, targeted and actual Makhan sales, targeted and actual curd sales, actual and targeted cheese sales, actual and targeted paneer, actual and targeted ice-cream and targeted and actual cream. Among of these, there is high degree of positive correlation between planned ice-cream and actual ice-cream sales , planned mahkan and actual makhan sale, planned milk and actual milk sales because it is greater than 0.75. Other items like paneer and cream is satisfactory performance of curd and cheese is highly satisfactory. Table 4.10 shows that there is a negative correlation between planned ghee and actual sales of ghee as it are less than 0.

Probable error of items Ghee and Cheese are greater than their correlation coefficient. Which is not all significant? This is not the good sign for the company (DDC) for these (Ghee and Cheese) products.

**Table 4.11**

**Total budgeted sales and total actual sales of milk and milk products  
( in Rs. Lakhs)**

<b>Years</b>	<b>Budgeted sales (Rs).</b>	<b>Actual Sales (Rs.)</b>	<b>Variance Amt.</b>	<b>Variance %</b>
2061/62	15611.35	13483.99	2127.36	13.63
2062/63	16722.68	14847.72	1874.96	11.21
2063/64	16405.02	15519.11	885.91	5.4
2061/63	15959.06	15454.48	504.58	3.16
2065/66	17393.45	15358.10	2035.35	11.7
2066/67	19281.64	15896.63	3385.01	17.55
2066/67	19873.33	17126.81	2746.52	13.82
Correlation of Coefficient = 0.81				

**Source: DDC, Annual Reports**

Table 4.11 indicates the total amount of budgeted sales Rs. (In Lakhs) and total actual sales Rs. (in lakhs). It shows that budgeted sales are always higher than the actual sales. There has been improvement in actual sales in recent years.

The calculated correlation coefficient between total budgeted sales and actual sales is 0.810 (shown in appendix 18) which shows that there is highly positive correlation between them.

There is variance between the budgeted sales and actual sales from the year 2059/560 to 2066/67, which is unfavorable. The highest amt. of variance is in the year 2066/67, which is 17.55%. The less variance is in the year 2064/65 which is 3.16%.

**Table 4.12**

**Simple regression analysis of Total Actual Sales and Total Budgeted Sales**

**Rs. (in Lakh).**

F/Y	X	Y	X <sup>2</sup>	Y <sup>2</sup>	XY
2061/62	15611.35	13483.99	243714248.8	181817986.3	210503287.3
2062/63	16722.68	14847.72	279648026.4	220454789.2	248293670.3
2063/64	16405.02	15519.11	269124681.2	240842775.2	254591309.9
2064/65	15959.06	15454.48	254691596.1	238840952.1	246638973.6
2065/66	17393.45	15358.10	302532102.9	235871235.6	267130344.4
2066/67	19281.64	15896.63	371781641.1	252702845.4	306513096.9
2066/67	19873.33	17126.81	394949245.3	293327620.8	340366747
Sums	121246.53	107686.84	2116441542	1663858204.6	1874037429.4

$$a = 107686.84/7=15383.834$$

$$b = 1874037429.4/2116441542$$

$$=0.8854$$



We get the regression line:  $Y_c = a + bX$

$$Y_c = 15383.834 + 0.8854X$$

Table 4.222 indicates that 'a' and 'b' are constant values which are 15383.834 and 0.8854 respectively. 'X' is the independent variable, which represents budgeted sales and 'Yc' is the dependent variable that is actual sales amount. 'Yc' depends on the value of 'X'.

#### 4.1.3 Sales forecast

Sales can be forecasted with taking the base previous year's sale. Here the researcher has forecasted the sales of milk with the help of least square method.

**Table 4.13**  
**Trend lines of sales of milk (in 00000')**

Fiscal Year	y	X	x <sup>2</sup>	xy
2061/62	556.45	-3	9	-1669.35
2062/63	563.57	-2	4	-1127.14
2063/64	577.64	-1	1	-577.64
2064/65	602.76	0	0	0
2065/66	574.92	1	1	574.92
2066/67	593.62	2	4	1187.24
2066/67	569.83	3	9	1709.49
Sums	4038.79	0	28	97.52

Where y = Actual sales of milk, x = time.

Fiscals year 063/64 is the assumed as base year therefore the value of x or mid-time is zero, negative before the base year and positive after the base year.

$$Y = a + bx,$$

The calculated,

$$a = \frac{\sum y}{n} = 576.97$$

$$b = \frac{\sum xy}{\sum x^2} = 3.48$$

Substituting the value in straight line equation, we have,

$$y_c = a + bx$$

$$y = 576.97 + 3.48x$$

**Table 4.14**  
**Sales forecast value of milk sales (in lakhs)**

Fiscal Year	a	b	x	trend value
2061/62	576.97	3.48	-3	566.53
2062/63	576.97	3.48	-2	570.01
2063/64	576.97	3.48	-1	573.49
2064/65	576.97	3.48	0	576.97
2065/66	576.97	3.48	1	580.45
2066/67	576.97	3.48	2	583.93
2067/68	576.97	3.48	3	587.41
2068/69	576.97	3.48	4	590.89
2069/70	576.97	3.48	5	594.37
2070/71	576.97	3.48	6	597.85

The trend line in table 4.14 shows that there will be positive sales figure for future. The sale of milk is in increasing trend for the coming years. If the situation favors, the sales performance of milk is definitely going to be good. From the above table it can be concluded that trend of milk sales is in increasing trend by 3.48 lakhs.

#### **4.1.4 Statistical tools and interpretation**

To test consistency of budgeted and actual sales of “Dairy products” in different years, statistical tools as arithmetic mean, standard deviation and coefficient of variation have been calculated (detailed is given in appendix.)

**Table 4.15****Statistical summary of Actual & Targeted Sales Dairy Products**

component	Milk		Makhan		Curd		Cheese		Ghee		Paneer		ice-cream		Cream	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Mean (X)	631.081	576.905	3.12	2.552	9.84	9.885	2.102	1.528	8.84	7.462	68.76	53.45	55.295	40.767	32.68	29.81
S.D	31.258	15.041	0.539	0.5093	1.0907	0.7031	0.244	0.142	0.921	1.399	38.01	18.302	23.64	18.423	6.317	10.95
C.V (%)	4.95	2.61	17.28	19.96	11.08	7.11	11.61	9.27	10.42	18.75	55.28	34.24	42.75	45.19	19.33	36.72

Source: Appendix 10-18.

Table 4.15 shows that actual sales are more deviated from the targeted sales in case of milk, Paneer and cream. We know that higher the value of coefficient of variation, higher the degree of variability in nature of data. It can be said that there is significant gap between weakness of top-level management (i.e. board of directors and EO regarding, the reading in internal and external variables of organization which effects the performance of the organization. These problems needs to be summoned in time and should be taken necessary steps. Products like Makhan, Ghee, Ice-Cream and cream has the coefficient of variation of actual sales more than the coefficient of variation of the products. This shows that sales performances of these products are not satisfactory. The sales of milk, curd, cheese and paneer is quite satisfactory.

#### **4.1.5 Variance Analysis**

Variance analysis, in general comparison process between actual and budgeted result, is the integral part of the control process. Reporting of variance between actual results and targeted or budgeted figures is a basic feature of performance reports. Analysis of variance guide planner to continue favorable results and to make good decision or review over the unfavorable situations. A careful management study should be made to determine the underlying cause for significant variance. Following steps are taken while analyzing variance.

- Standards should be developed for labour, sales, profit etc.
- Comparison between actual result and standard should be made to find variance.
- Causes should be analyzed and diagnosed as controllable and uncontrollable.

- Responsibility and accountability should be assigned to related center and authorized personnel should be made accountable for controllable causes of unfavorable variances.

Nepalese public enterprises have not well developed system of determining standard or overhead, expenses, yields, sales and profit only rough comparison between targets and actual sales made.

#### 4.1.6 Trend of Profit /Loss in DDC

**Table 4.16**  
**Profit and loss trend (in Rs.)**

Fiscal Year	Profit & Loss
2061/62	(2,16,27538.45)
2062/63	(10,5902081.10)
2063/64	(7,61,32944.24)
2064/65	89,31871.41
2065/66	1,41,17594.06
2066/67	73,67717.44
2066/67	82,6000

**Source: DDC, Annual Reports**

Table 4.16 shows that like other PEs of Nepal, DDC is always suffering from the chronic disease i.e. loss occurrence. Although there has been positive indication since the year 063/64 onwards i.e. profit is generating. But still there is a huge amount of accumulated loss in DDC. This small amount of profit can't help in recovering those big amounts of accumulated loss. So, the management needs to be aware of that. These losses are occurring due to lack of commitment, political interference, marketing strategy etc. correction is needed in time as DDC has lots of possibility to grow and make profits. The effectiveness of sales planning process can be viewed through profit/loss trend also. For generating good profit, DDC should have effective sales planning. There must be control of cost of production; promotional work should be effective.

#### **4.1.7 Tactical (short-term) sales budget**

For the coming year's twelve months, short term sales budget in a company is prepared. The short-term sales budget 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 jobs and in sales and service rupees. Short-term sales plan must also be structured by marketing responsibility for planning purposes. Short-term sales plan may involve the application of technical judgment plays a large part in their determination.

The amount of detail in tactical sales plan is a function of the company's environment characteristics. A short-term sales plan should include considerable details. There need to be a co-ordination among the entire department which mainly related sales plan. A short term sales budget for year 065/66 is given in appendix.

#### **4.2 Primary Data Analysis**

Analysis of managerial process i.e. formulation procedure of sales planning in DDC.

##### **4.2.1 Objective formulation**

Any enterprises have its own objectives for operational purpose. Most of the activities of the enterprises are centralized within the objectives. Every enterprise has its own separate objectives to meet the government's target. DDC is one of the public enterprises of Nepal, which has its own objectives for its long-range destiny.

The researcher distributed a list of questions of managerial activities to the top and middle level managers of DDC, Central Unit. All the responses indicated that there are clearly defined goal and objectives.

#### 4.2.2 Planning and clarity of objectives

The objectives of the enterprises may be different and can be achieved in short run and long run. Without proper planning, it is difficult to achieve the goals and objectives. The objectives should be clearly defined and the planned should be systematic. The respondents indicated with 100% that the goals and objectives are clearly written and defined.

**Table 4.17**  
**Planning and Clarity of Objectives**

Objectives{goals}	Rank wise no. of response (1 for less priority to 5 for more priority)					Total weightage value	Mean weight	Overall rank
	1	2	3	4	5			
a. Profit maximization		3	3	6	3	54	3.60	1
b. Share price maximization	1	3	4	5	2	49	3.27	4
c. Sales maximization		4	3	4	4	53	3.53	2
d. Value Maximization	1	3	4	4	3	50	3.33	3
e. Other (please specify)	-	-	-	-	-	-	-	5

Source: Opinion Survey, 2012.

The respondents gave the first priority to “Profit Maximization” with overall mean 3.60 and second priority to “Sales Maximization” with mean 3.53. Similarly the least priority has been given to “Share Price Maximization” with overall mean 3.27, among the four objectives. The respondents gave the moderate priority to “Value Maximization” which seen in table 4.17.

#### 4.2.3 Duty and responsibility

The achievement of goals and objectives of any enterprises depends on its managerial activities. The managerial activities may be effective only

when the duties and responsibility of the different level personnel are made clear.

**Table 4.18**  
**Duties and Responsibilities of Employees**

<b>Objectives</b>	<b>No. of Response</b>	<b>Total No. of responses</b>	<b>Percentage</b>
Clearly and adequately defined	14	15	93.33
Ambiguously defined			
inadequately defined			
not defined at all			
unknown	1		6.67

Source: Opinion Survey, 2012

93.33% of respondents indicated the duties and responsibilities of employees are clearly and adequately defined. Only one respondent seem to be unknown about it, which is shown in table 4.18.

#### **4.2.4 Interference in policies:**

The policy of each enterprise may be different but it should concentrate to its goals and objectives. It indicated the duties and responsibilities of the personnel to achieve the goals and objectives of DDC have also formulated certain policies, such policies can be effective if they are properly applied.

**Table 4.19**  
**Interference in Policies**

<b>Objectives</b>	<b>No. of Response</b>	<b>Total No. of responses</b>	<b>Percentage</b>
Day-to-day operation	2	15	13.33
Weekly	--		
Monthly	3		20.00
Quarterly	2		13.33
long-term policies.	8		53.33

Source: Opinion Survey, 2012



The respondents indicated that the board of directors of DDC highly interfering in long-term policies with 53.33% responses similarly, 20% respondents gave the opinion that there is interference in monthly activities but less interference in day-to-day operations policies with 13.3%. The management has given autonomy for the day-to-day operation, which is shown in table 4.19.

#### 4.2.5 Involvement and commitment of Management

The management of any enterprises formulated goals and objectives and centralized its activities to achieve them in certain time, the personnel of different levels should be involve in management for formulation and achievement of the goals and objectives of the enterprises .

**Table 4.20**  
**Involvement and Commitment of Management**

Level of Mgmt.	No. of Response	Total No. of responses	Percentage
Top level management	8	15	53.33
Middle level management	--		
Lower level management	1		6.67
all of them	6		40

Source: Opinion Survey, 2012

The goals and objectives of DDC have been clearly defined, but objective with 53.33% responses. Middle level management is completely ignored for the commitment of goals and objectives. Second priority have been given to ‘all of them’ i.e. (top, middle and lower level management) with 40% response. Only one respondent gave the ‘lower level management’ for commitment of goal and objectives which are shown in table 4.20.

#### 4.2.6 Operational activities of sales plan of the enterprises:

The operational activities enterprises develop the numerous plans to achieve their goals and objectives. The sales plan is an important part of the overall planning process. Among the different operational activities, the respondents of DDC gave the first priority to “quality of product” with overall mean weight of 4.73. Similarly 2nd and 3<sup>rd</sup> priority has been given to managerial knowledge of market and effective sales strategy respectively. Least priority has been given to “political system”.

**Table 4.21**  
**Operational Activities of Sales Plan**

Operational Activities	Rank wise no. of response (1 for less priority to 5 for more priority)					Total weightage value	Mean weight	Overall rank
	1	2	3	4	5			
a. Trainees sales force	2	6	3	3	--	35	2.33	4
b. Managerial Knowledge of market	--	3	2	7	3	55	3.67	2
c. Effective sales strategy	--	4	5	4	2	49	3.27	3
d. Quality of product	--	-	1	2	12	71	4.73	1
e. Political System	5	5	2	2	1	34	2.27	5

Source: Opinion Survey, 2012

#### 4.2.7 Component of preparing Sales Budget

The overall responsibility of preparing sales budget is upon sales manager, although other departmental manger including chief executive should also be involved in formulation and development of ideal and realistic sales budget. All organizational operational are directly linked

with the sales budget thus sales budget should be prepare as realistic as possible.

Generally, four steps or components are involved in preparing of sales budget. They are:

- a. The sales forecast.
- b. The marketing plan.
- c. The advertising expense budget.
- d. The selling expenses budget.

**Table 4.22**  
**Component in Preparing Sales Budget**

Components	Rank wise no. of response					Total mean weightage value	Mean weight	Overall rank
	1	2	3	4	5			
a. Sales Forecast	2	2	3	5	3	50	3.33	3
b. marketing Plan	1	2	3	2	7	57	3.80	1
c. Advertising plan	4	4	2	5	--	38	2.53	4
d. Selling expenses budget	1	3	4	2	5	52	3.47	2
e. Other (please specify)	-	-	-	-	-	-	-	5

Source: Opinion Survey, 2012

Out of above four components in preparing sales budget, the respondents gave the first priority to “marketing plan” with overall mean 3.8, 2<sup>nd</sup> priority to “selling expense budget” with overall mean 3.47 and least priority to “advertising plan” with the overall mean 2.53, which is shown in table 4.22.

#### **4.2.8 Monitoring and evaluating the sales budget**

There must be correlation among all the departments, to achieve the goals and objectives in certain time period. Evaluating and monitoring process should be applied time to time.

**Table 4.23**

**Monitoring and evaluating the sales budget**

<b>Level of Mgmt.</b>	<b>No. of Response</b>	<b>Total No. of responses</b>	<b>Percentage</b>
Marketing Manager	3	15	20.00
Chief Executive	2		13.33
both of above	9		60.00
Unknown	1		6.67

Source: Opinion Survey, 2012

For evaluating and monitoring the sales budget, the responses gave the first priority to ‘Both of them’ (Marketing manager and Chief Executive) with 60%. By the response it seems that only one response was unknown about the system, which is shown in table 4.23.

**4.2.9 Responsibility in preparing sales budget.**

Sales budget is one of the important budgets of all the budgets. If it is not realistic all the budgeting procedure are also misleading. Therefore the person, who are mainly concerned in the preparing for sales budget must be responsible and careful.

**Table 4.24**

**Responsibility in Preparing Sales Budget**

<b>Responsibilities</b>	<b>No. of Response</b>	<b>Total No. of responses</b>	<b>Percentage</b>
Marketing Manager	4	15	26.67
Chief Executive	2		13.33
other dept. Manager	0		
All of them	9		60.00

Source: Opinion Survey, 2012

For the responsibility in preparing sales budget the respondents gave high priority to “All of them” (i.e. chief Executive, marketing manager and other department manager) with 60%. Similarly 26.64% to marketing manager. None of the response was with the other dept. manager. Only 2 respondents gave the priority to Chief executive. In the same extent, it seemed that the responsibility in preparing sales budget is scientific which is shown in table no. 4.24.

### **4.3 Major findings of the study**

After the study and analysis of the study of sales planning in DDC different facts have been found out by the researcher. DDC is one of the PEs of Nepal so here also plans are prepared on adhoc basis. Without the analysis of environment the objectives are set by DDC, which are not suitable or appropriate. There is a great demand of milk and milk products in the urban area. DDC’s work is to systematize the collection of milk and produce the milk and products and distribute it to the people.

Mostly DDC is collecting milks from different remote village areas of the country and distributing it to the urban area. There has been establishment of many private diaries which does the same .So there is a neck-to-neck competition with these Diaries. DDC sets the targets but it is unable to meet that target due to the lack of commitment and effective marketing policy. Now the time has come that DDC should make market studies on Demand supply and pricing of milk and Dairy products should be carried out. There have been no effective research and development unit, which need to be strengthened and enabled. Some other major findings are listed as below:

- 1) DDC is not preparing the systematic periodic performance reports detailed by assigned responsibilities for accomplishing the planning objectives.

- 2) By the analysis, there is no systematic and realistic sales plan. The sales planning is rarely satisfactory for some product but not for all. In most of the cases actual sales is far behind the targeted sales.
- 3) The company prepared the sales budget without studying the environmental scanning. There is no co-ordination between the various departments sales forecast; marketing plan, advertising plan etc are the main component of sales budget. Sales forecast and advertising has been ignored. The sales department has no clear concept about the sales forecast.
- 4) The achievement of milk, Makhan, cheese and ice-cream is always less than the targeted in different years. The actual has never bothered to exceed the targeted sales. The sales of curd, Paneer, cream is satisfactory.
- 5) There is always variance (unfavorable) in between targeted and actual sales except in some cases. The achievement percentage of milk sales is highest achievement in 061/62 (i.e. 94.22% of targeted), for Makhan the highest achievement is in the year 066/67 which is 96.98% of the targeted sales. For the ghee only in the year 062/63 the actual sales has been exceed the targeted but not in other years. For Paneer achievement is 98.90 % in 060/61, 75.64% in 061/62, 113% in 062/63, 129.16% in 063/64, 104.47% in 063/64, 37.88 in 065/66 and 68.61% in 066/67. For ice-cream 88.5% in 062/63, 90.476% in 064/65, 84.40% in 066/67, for curd achievement is quite exciting, except in the year 065/66 and 060/61 it has exceed the targeted sales. For cream the achievement % is quite mixed. The highest achievement % is in 065/66 (i.e. 137.69%) and 117.85% in 060/61.
- 6) There is positive correlation between actual sales and targeted sales of dairy products like milk, makhan, curd, cheese, paneer, ice-cream and cream. Among of these items, there is high degree of positive correlation between the targeted and actual sales of makhan, ice-

cream and milk. There is negative correlating between targeted and actual sales of ghee which is not good for company.

- 7) Least square straight line sales trend of DDC shows that the sales will be gradually increase in the future if present efforts are frequently being improved.
- 8) There is positive correlation (i.e. 0.81) between the total budgeted sales and total actual sales in Rs. amount of the milk and milk products of the DDC.
- 9) In the year 060/61, 061/62, 062/63 there is losses in DDC. From the year 063/64 there has been achievement of profit. The accumulated loss is such big that this small amount of profit is not enough to fulfill them although it is a positive signal. There must be review in sales planning, control of cost etc.
- 10) The expenses made for promotion or advertising is less and also it has not been used effectively. The promotional expense is about 4 to 5% of the total selling expense. Promotional works are mostly located in Kathmandu valley only. In the other urban cities, promotional works are less than required.
- 11) The effectiveness of sales plan in DDC is just satisfactory. It can be seen from P/L of the company, the variances between the targeted sales and the actual sales of milk and milk products. Sales planning must be more effective than it is in current situation. The effectiveness of sales plan can only help overall profit planning and overall development of corporation.

## **CHAPTER-V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

#### **5.1 Summary**

To promote the living standard of the people and fulfill the basic needs, cattle farming are playing an important role in the country. Keeping this fact in mind, the government of Nepal had set up the Dairy Development Corporation DDC, established under the corporation act in 1969 or (B.S 2026). DDC is a public enterprises created with the aim to increase the milk products on the rural areas by collecting available quantity of milk, process and distribute it to the urban population at social acceptable prices as a commercially viable operation. In the early days or years of its existence DDC was fulfilling its objectives as an agent of rural development and suppliers of dairy products to the urban population but its operations were commercially not viable and as a result losses were accumulated.

Comprehensive profit planning and control or budgeting continuous to be of prime importance in virtually all organization. Profit plans can be broadly divided into two groups as functional plan and financial plan. Functional plan includes sales plan, production plan, raw materials plan, direct labour plan and expenses plan, financial plan includes cash flow plan, capital expenditure plan projected income statement and projected balance sheet. For the smooth operation of the any enterprises comprehensive profit planning and control should be strongly applied, it is one of the most important management tools use to plan and control a business.



Sales plan is the first foundation of the profit plan. It is like as the "nerve center" of the human being. The sales plan should be worked out on a sound and reasonably detailed basis as all the other budgets are dependent upon the sales budget. It should reflect seasonal influences and any anticipated irregularities in sales. It should be broken down not only into time periods but also into geographical or areas of responsibility by the use of sales quotas. The sales plan should be realistic, prepared by the well-skilled planner, who have knowledge about the marketing and applied the statistical knowledge about the marketing and applies the statistical tools properly. A comprehensive sales plan include two separate but related plans the strategic and tactical sales plan and identified the component of the comprehensive sales plan.

The present study has been analyzed and examined the degree of application profit planning (sales plan) and its effectiveness in Nepalese PEs with the special reference of Dairy development Corporation in Nepal.

For the purpose of analyzing 7 years long term budgets data from FY 2061/62 to 2066/67 and a short term budget data 2065/66 of dairy product has been taken/. Data have been collected from sources, primary and secondary. Primary data are collected with the help of staffs interview and structured questionnaire. To analyze and examine the collected data several statistical methods or tools have been used as: percentage method, arithmetic mean, standard deviation, coefficient of variation, correlation, regression analysis, least square analysis. Similarly, financial tools such as variance analysis have also been used according to their need.

Related literatures have been reviewed which consists about books, report, periodical articles and government official publication etc. and 7 dissertations.

Various internal (management problems) and external (political, economical) problems has suffered Nepalese public and private enterprises in formulating and implementation profit plans. DDC set its financial plans according to Nepal Government plans and policies. However, the lower level management as well as most of the top-level management is unaware about such specific goals. DDC has only the practice of setting long and short term plan sales, production and collecting milk. In general, PEs has a little more practice of formulating and implementing profit plans. Although Nepalese PEs has to face more problems in formulating and implementations profit plans.

## **5.2 Conclusion**

From the study it is found that DDC has not followed participatory management, even middle level of management are not participated in policy making. Only top level of management is directly involved in policy making. The organization pattern of DDC is divided in various department and sub-department and various managers are involved in it as departmental managers. The philosophy of PPC is each an organization should be divided in various departments and branches each department of responsibility managers have to given the authority to determine own departmental objectives, goals, targets accord to organizational destination. But the (project) managers of DDC have not got enough authority to determine their own objectives, destination and goals. The Nepalese manufacturing PEs plans are prepared on ad-hoc basis, which is also applicable incase of DDC without the analysis of

environment the objectives are set by the DDC, which are not suitable or appropriate.

There is only annual target is supplied by the top management for the major department. There is no details and formal guidelines to the lower level management or departmental manager for the purpose of developing profit plan which also seen is DDC. Proper communication is lacking between the top order and lower order. Interference in day to day activities is less and high interference in long term policies from the board of directors. As manpower is the most important resources for any enterprises for achieving enterprise's goal and objectives the responsibilities and duties of employees in DDC, are adequately defines but there is lack of self-commitment of employees towards the organization process. There is lack of research and development and growth of sales due to lack of proper planning and adequate budget.

There is no coordination between the various departments sales forecast marketing plan, adverting plan etc are the main component of sales budget. The demand of milk and milk product in urban areas of Kathmandu valley is very high than supply of milk and its products. Supply is insufficient in compare to the demand. Except of the milk supply, for other milk products, the sales plan is rarely satisfactory. There is no systematic and realistic sales plan. There is neck to neck competition between other emerging dairy product industries and DDC, in the valley and other parts of country as well. So for better sales, advertising should be effective DDC should invest on more advertising strategies.

There is conflict between DDC and milk producer farmer as well as other milk collecting co-operative agencies. Farmers are not satisfied with the

mark prices of milk. Sales planning are a primary plan of profit planning, other planning depends upon sales plan DDC mostly depends on production plan. For generating more profit sales planning with effective advertisements are most. But DDC is mostly focused on the production planning. The sales plan are prepare on traditional and ad-hoc basis due to lack of skilled and expert planners. Therefore they are unable to forecast the future accurately which result the planning section to be poor. It can be concluded that DDC's performances is satisfactory. Some positive indications are being observed. But there are lots of areas to be kept in mind and improved.

### **5.3 Recommendation**

In the course of the research work, of sales planning in DDC in Nepal, many weakness, and different measures to be implemented by DDC for its development, progress and improvement were found and they have been recommended here. These recommendations are based on study and hoped that these will prove to be useful to the management of the corporation and other who are concerned with it.

- There must be communication, co-ordination and participation of different levels of management as well as other employees in formulation and evaluation of enterprises goal and objectives.
- Only top level managers should not be involved in decision making, there must be the participation of lower level personnel too. Decision making process is a group effort or an integrated process.
- The performance evaluation should be established in DDC.
- Government should not interfere on DDC. Government should give autonomy responsibility and authority to the management of DDC.

It is always seen that the board members of corporations are changed with the change in government that should be avoided.

- DDC should consider demand. Market study while making the plan. It should also consider the price; supply and policies of other private dairies DDC should attract the booth centers and consumers towards its products.
- The enterprise should define its goal and objectives clearly among the different levels of management. The management should select the goals and objectives on the basis of their needs.
- The duties and responsibilities of the employees should be defined on a clear-cut way. It would be better that the right person in proper place can perform the work effectively.
- Monitoring and evaluating system should be scientific, regular and appropriate. Highly interfering policy should be avoided. Punishment and rewarding system must be continuously followed with non-ambiguously according to their performance.
- For the better planning and budgeting process (Task) persons having adequate practical and theoretical knowledge about budgeting profit planning and control should be appointed in planning and budgeting section. Training workshops and other programs should be held time to time to provide knowledge about PPC (Especially sales strategies) to the managers and other employees.
- DDC should cut down the unproductive expenses.
- DDC should consider the sales plan on the time of planning production.
- The sales manager should be appointed a well trained, qualified and, having knowledge of market study.

- There is neck-to-neck competition with the private dairies so proper advertising campaigns, publicities, product varieties or other promotional tools should be effective for achieving goals and objectives of DDC.
- Systematic periodic performance report in detailed should be prepared by DDC by assigned responsibilities for accomplishing the planning objectives.
- Sales achievement is too below the sales target. Necessary steps should be taken to those products sales and marketing which have negative correlation. A systematic approach of profit planning is needed.
- Market studies on demand supply and pricing should be carried out. The cost of milk production should be assured research and development unit of DDC should be strengthened and enabled to carry out such studies.
- To meet the desired sales target, DDC should try to increase collection centers, sales centers and media support (i.e. advertising) for publicity of its products. DDC should be ready to face the neck-to-neck competition from the private dairies and international milk products. It is possible if government, board of directors of DDC, and all the staffs come together and make a commitment for the upliftment of DDC.

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## APPENDICES

### Appendix I

This Questionnaire has been prepared for conducting a study titled “Sales Planning in DDC” as a partial fulfillment for the degree of Master in Business Studies. Please choose the best which you think is the appropriate on your opinion. **Questionnaire**

#### Personal Details

Name :

Post, (please specify the field):

- 1) Please, rank to what extent do you think the following objectives are achieved?

Objectives	Min1	2	3	4	Max5
a. Profit maximization					
b. Share price maximization					
c. Sales maximization					
d. Value maximization					
e. Other (Please specify)					

- 2) What do you think about the clarification of duties and responsibilities of employees?

- a. Well defined [     ]
- b. Ambiguously defined [     ]
- c. Inadequately defined [     ]
- d. Not defined at all [     ]
- e. Unknown [     ]

- 3) How often the board of directors interfere in the following policies?

- Day-to-day transaction [     ]
- Weekly [     ]
- Monthly [     ]
- Quarterly [     ]
- Long term policies [     ]

4) Which management level has been involving in objectives formulation?

- a. Top level management [     ]
- b. Middle level management [     ]
- c. Lower level management [     ]
- d. All of the above [     ]

5) Rank the following operational activities of sales plan in DDC. (5 for top priority and 1 for least priority)

operational activities	Min 1	2	3	4	Max 5
a) Trained sales force					
b) Managerial knowledge of market					
c) Effective sale strategy					
d) Quality of product					
e) Political system					

6) Which one is given more priority and less priority in preparing sales budget?

(Please rank them)

components	Min 1	2	3	4	Max 5
a. Sales forecast					
b. The advertising plan					
c. Marketing plan					
d. Selling expense budget					
e. Other (Please specify)					

7) Who has more responsibility of sales budget evaluated monitoring?

- Chief executive
- Marketing manager
- Both of them

8) In your view, who is responsible for preparing sales budget?

- Chief executive
- Marketing manager
- Project manager
- All of them

## Appendix 2

### Milk Sales Variance (in lit)

<b>Fiscal Year</b>	<b>target Sales Amt.</b>	<b>Actual Sales Amt.</b>	<b>Variance amount</b>	<b>% of Variance</b>	<b>Remarks</b>
2060/61	59741000	55645157	4095843	6.86	Unfavourable
2061/62	59812000	56357176	3454824	5.78	Unfavourable
2062/63	61961000	57764000	4197000	6.77	Unfavourable
2063/64	64217000	60276000	3941000	6.14	Unfavourable
2064/65	65495000	57492000	8003000	12.22	Unfavourable
2065/66	69050000	59317000	9733000	14.10	Unfavourable
2066/67	61481000	56983000	4498000	7.32	Unfavourable

## Appendix 3

### Makhan Sales Variance ( in Kgs)

<b>Fiscal Year</b>	<b>tareget Sales Amt.</b>	<b>Actual Sales Amt.</b>	<b>Variance amount</b>	<b>% of Variance</b>	<b>Remarks</b>
2060/61	358500	300192	58308	16.264	Unfavourable
2061/62	361700	285314	76386	21.119	Unfavourable
2062/63	351800	302000	49800	14.156	Unfavourable
2063/64	311000	287000	24000	7.717	Unfavourable
2064/65	318000	232000	86000	27.044	Unfavourable
2065/66	288000	170000	118000	40.972	Unfavourable
2066/67	195500	189600	5900	3.018	Unfavourable

## Appendix 4

### Curd Sales Variance ( in Lit)

<b>Fiscal Year</b>	<b>Target Sales Amt.</b>	<b>Actual Sales Amt.</b>	<b>Variance amount</b>	<b>% of Variance</b>	<b>Remarks</b>
2060/61	980000	890538	89462	9.13	Unfavourable
2061/62	889500	981575	92075	10.35	favourable
2062/63	935000	1006000	71000	7.59	favourable
2063/64	951000	1057000	106000	11.15	favourable
2064/65	1101000	1102000	1000	0.09	favourable
2065/66	1182000	985000	197000	16.67	Unfavourable
2066/67	850150	904000	53850	6.33	favourable

## Appendix 5

### Cheese Sales Variance ( in Kgs)

<b>Fiscal Year</b>	<b>target Sales Amt.</b>	<b>Actual Sales Amt.</b>	<b>Variance amount</b>	<b>% of Variance</b>	<b>Remarks</b>
2060/61	182750	146785	35965	19.68	Unfavourable
2061/62	227400	140038	87362	38.42	Unfavourable
2062/63	225000	145000	80000	35.56	Unfavourable
2063/64	181000	150000	31000	17.13	Unfavourable
2064/65	184000	161000	23000	12.50	Unfavourable
2065/66	241000	143000	98000	40.66	Unfavourable
2066/67	230800	184000	46800	20.28	Unfavourable

## Appendix 6

### Ghee Sales Variance (in Kgs)

<b>Fiscal Year</b>	<b>target Sales Amt.</b>	<b>Actual Sales Amt.</b>	<b>Variance amount</b>	<b>% of Variance</b>	<b>Remarks</b>
2060/61	958038	479904	478134	49.91	Unfavourable
2061/62	736000	709786	26214	3.56	Unfavourable
2062/63	752000	931000	179000	23.80	Favourable
2063/64	899000	842000	57000	6.34	Unfavourable
2064/65	943000	704000	239000	25.34	Unfavourable
2065/66	917000	644000	273000	29.77	Unfavourable
2066/67	983100	913000	70100	7.13	Unfavourable

## Appendix 7

### Paneer Sales Variance (in Kgs)

<b>Fiscal Year</b>	<b>Target Sales Amt.</b>	<b>Actual Sales Amt.</b>	<b>Variance amount</b>	<b>% of Variance</b>	<b>Remarks</b>
2060/61	31000	30660	340	1.10	Unfavourable
2061/62	39000	29500	9500	24.36	Unfavourable
2062/63	43360	49000	5640	13.01	Favourable
2063/64	48000	62000	14000	29.17	Favourable
2064/65	67000	70000	3000	4.48	Favourable
2065/66	132000	50000	82000	62.12	Unfavourable
2066/67	120960	83000	37960	31.38	Unfavourable

## Appendix 8

### Ice-Cream Sales Variance ( in Ltrs)

Fiscal Year	Target Sales Amt.	Actual Sales Amt.	Variance amount	% of Variance	Remarks
2060/61	50266	32750	17516	34.85	Unfavourable
2061/62	38500	27620	10880	28.26	Unfavourable
2062/63	35000	31000	4000	11.43	Unfavourable
2063/64	39000	32000	7000	17.95	Unfavourable
2064/65	42000	38000	4000	9.52	Unfavourable
2065/66	81600	39000	42600	52.21	Unfavourable
2066/67	100700	85000	15700	15.59	Unfavourable

## Appendix 9

### Cream Sales Variance ( in Ltrs)

Fiscal Year	Target Sales Amt.	Actual Sales Amt.	Variance amount	% of Variance	Remarks
2060/61	28000	33000	5000	17.86	Unfavourable
2061/62	41000	31000	10000	24.39	Unfavourable
2062/63	38000	27500	10500	27.63	Unfavourable
2063/64	32000	24700	7300	22.81	Unfavourable
2064/65	28000	21500	6500	23.21	Unfavourable
2065/66	39000	53700	14700	37.69	Favourable
2066/67	22800	17300	5500	24.12	Unfavourable

## Appendix 10

### Calculation of Mean, S.D, C.V and Correlation coefficient of DDC's

#### Targeted And Actual Milk Sales (In Lakhs)

Year	Targeted (X)	Actual (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	$Xy$
2060/61	597.41	556.45	-33.67	-20.455	1133.7362	418.4070	688.7403
2061/62	598.12	563.571	-32.96	-13.335	1086.4275	177.8222	439.5349
2062/63	619.61	577.64	-11.47	0.735	131.5838	0.5402	-8.4312
2063/64	642.17	602.76	11.089	25.855	122.9659	668.4810	286.7061
2064/65	654.95	574.92	23.869	-1.985	569.7292	3.9402	-47.3800
2065/66	690.5	593.17	59.419	16.265	3530.6176	264.5502	966.4500
2066/67	614.81	569.83	-16.27	-7.075	264.7454	50.0556	115.1173
	4417.570	4038.341			6839.806	1583.797	2440.738

Targeted Data

$$Mean(\bar{X}) = \frac{\sum X}{n} = \frac{4417.57}{77} = 631.081$$

$$S.D(\sigma) = \sqrt{\frac{1}{n} \sum x^2} = \sqrt{\frac{6839.726}{7}} = \sqrt{977.1037}$$

$$= 31.258$$

$$C.V = \frac{\sigma}{\bar{X}} \times 100\% = \frac{31.258}{631.081} \times 100\% = 4.95\%$$

$$Correlation(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{2440.733}{\sqrt{6839.726 \times 1583.795}}$$

$$= 0.741$$

Actual Data

$$Mean(\bar{Y}) = \frac{4.38.34}{7} = 576.905$$

$$S.D(\sigma) = \sqrt{\frac{1}{n} \sum y^2} = \sqrt{\frac{1583.795}{7}}$$

$$= 15.041$$

$$C.V = \frac{\sigma}{\bar{Y}} \times 100\% = \frac{15.041}{576.905} \times 100\%$$

$$= 2.607\%$$

The above result shows that there is positive correlation between targeted and actual milk sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \times \frac{(1-(0.741)^2)}{\sqrt{7}}$$

$$= 0.1149$$

6 P.E. = 0.6894; Hence it is significant.

### Appendix 11

#### Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Makhan Sales (in Lakhs.)

Year	Targeted (X)	Actual (Y)	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	Xy
2060/61	3.585	3.001	0.465	0.479	0.2162	0.2294	0.2227
2061/62	3.617	2.853	0.497	0.331	0.2470	0.1096	0.1645
2062/63	3.518	3.02	0.398	0.498	0.1584	0.2480	0.1982
2063/64	3.11	2.87	-0.01	0.348	0.0001	0.1211	-0.0035
2064/65	3.18	2.32	0.06	-0.202	0.0036	0.0408	-0.0121
2065/66	2.88	1.7	-0.24	-0.822	0.0576	0.6757	0.1973
2066/67	1.955	1.896	-1.165	-0.626	1.3572	0.3919	0.7293
	21.845	17.660			2.040	1.8165	1.49642



Targeted Data

$$\text{Mean}(\bar{X}) = \frac{\sum x}{n} = \frac{21.845}{77} = 0.2837$$

$$S.D(\sigma) = \sqrt{\frac{1}{n} \sum x^2} = \sqrt{\frac{2.0401}{7}} = \sqrt{0.2914} = 0.539$$

$$C.V = \frac{\sigma}{x} \times 100\% = \frac{0.539}{3.120} \times 100\% = 17.27\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{1.52738}{\sqrt{2.0401 \times 1.8158}}$$

$$= 0.793$$

Actual Data

$$\text{Mean}(\bar{Y}) = \frac{17.66}{7} = 2.522$$

$$S.D(\sigma) = \sqrt{\frac{1}{n} \sum y^2} = \sqrt{\frac{1.8158}{7}} = 0.5093$$

$$C.V = \frac{\sigma}{y} \times 100\% = \frac{0.5093}{2.522} \times 100\% = 20.19\%$$

The above result shows that there is positive relation between targeted and actual makhana sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \times \frac{(1-(0.793)^2)}{\sqrt{7}}$$

$$= 0.0946$$

Here 'r' is greater than P.E. It is significant.

## Appendix 12

### Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Curd Sales ( in Lakhs.)

Year	Targeted (X)	Actual (Y)	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2060/61	9.8	8.9	-0.04	-0.989	0.0016	0.9781	0.03956
2061/62	8.895	9.815	-0.945	-0.0742	0.8930	0.0055	0.07012
2062/63	9.35	10.06	-0.49	0.1708	0.2401	0.0292	-0.08369
2063/64	9.51	10.57	-0.33	0.6808	0.1089	0.4635	-0.22466
2064/65	11.01	11.02	1.17	1.1308	1.3689	1.2787	1.323036
2065/66	11.82	9.85	1.98	-0.0392	3.9204	0.0015	-0.07761
2066/67	8.5	9.04	-1.34	-0.8492	1.7956	0.7211	1.13793
	$\Sigma x = 68.885$	$\Sigma y = 9.255$			$\Sigma x^2 = 8.32853$	$\Sigma y^2 = 3.47767$	$\Sigma xy = 2.184671$

Targeted Data:

$$\text{Mean}(\bar{X}) = \frac{68.885}{7} = 9.840$$

$$S.D(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{8.3285}{7}} = 1.0907$$

$$C.V = \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{1.0907}{9.840} \times 100\% = 11.08\%$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{2.184668}{\sqrt{8.3285 \times 3.47747}} \\ &= 0.405947 \end{aligned}$$

Actual Data:

$$\text{Mean}(\bar{Y}) = \frac{69.225}{7} = 9.8892$$

$$S.D(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{3.47747}{7}} = 0.7048$$

$$C.V = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{0.7048}{9.885} \times 100\% = 7.1299\%$$

The above result shows that there is positive relation between targeted and actual curd sales data.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \times \frac{(1 - (0.41239)^2)}{\sqrt{7}} \\ &= 0.21158 \end{aligned}$$

### Appendix 13

#### Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Cheese Sales (in Lakhs.)

Year	Targeted (X)	Actual (Y)	x= X - $\bar{X}$	y= Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	Xy
2060/61	1.827	1.4678	-0.275	-0.0604	0.0756	0.00365	0.0166
2061/62	2.274	1.40	0.1713	-0.1282	0.0293	0.0164	-0.02196
2062/63	2.25	1.45	0.1473	-0.0782	0.0216	0.0061	-0.0115
2063/64	1.81	1.50	-0.2927	-0.0282	0.0856	0.0008	0.00825
2064/65	1.84	1.61	-0.2630	0.0818	0.0691	0.0067	-0.0215
2065/66	2.41	1.43	0.3073	-0.0982	0.0944	0.0096	-0.03018
2066/67	2.308	1.84	0.2053	0.3118	0.0421	0.0972	0.0640
	14.719	10.6978			0.4177	0.14047	0.0038625

Targeted Data

$$\text{Mean}(\bar{X}) = \frac{14.719}{7} = 2.1027$$

$$\text{S.D}(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{0.4177}{7}} = 0.2442$$

$$\text{C.V} = \frac{\sigma_x}{\bar{X}} \times 100\% = \frac{0.2442}{2.1027} \times 100\% = 11.61\%$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{0.0038625}{\sqrt{0.4177 \times 0.14047}} \\ &= 0.01594 \end{aligned}$$

Actual Data

$$\text{Mean}(\bar{Y}) = \frac{10.6978}{7} = 1.5282$$

$$\text{S.D}(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{0.14047}{7}} = 0.14165$$

$$\text{C.V} = \frac{\sigma_y}{\bar{Y}} \times 100\% = \frac{0.14165}{1.5282} \times 100\% = 9.26\%$$

The above result shows that there is positive relation between targeted and actual cheese sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \times \frac{(1-(0.01594)^2)}{\sqrt{7}} \\ &= 0.25487 \end{aligned}$$

Here 'r' is greater than P.E (0.01594 < 0.25487). It is not significant.

## Appendix 14

### Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Ghee Sales ( in Lakhs.)

Year	Targeted (X)	Actual (Y)	x= X - $\bar{X}$	y=Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	Xy
2060/61	9.58	4.7990	0.74	-2.663	0.5476	7.0916	-1.9706
2061/62	7.36	7.10	-1.48	-0.365	2.1904	0.1332	0.5402
2062/63	7.52	9.31	-1.32	1.2476	1.7424	1.5565	-1.6468
2063/64	8.99	8.42	0.1500	0.958	0.0225	0.9178	0.1437
2064/65	9.43	7.04	0.5900	-0.422	0.3481	0.1781	-0.2490
2065/66	9.17	6.44	0.3300	-1.022	0.1089	1.0445	-0.3373
2066/67	9.831	9.13	0.991	1.668	0.9820	2.7822	1.6530
	61.881	52.236			5.9419	13.7039	-1.8667

Targeted Data

Actual Data

$$\text{Mean}(\bar{X}) = \frac{61.881}{7} = 8.840$$

$$\text{Mean}(\bar{Y}) = \frac{52.236}{7} = 1.5282$$

$$S.D(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{5.9419}{7}} = 0.921$$

$$S.D(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{13.735}{7}} = 0.14165$$

$$C.V = \frac{\sigma_x}{\bar{X}} \times 100\% = \frac{0.921}{8.840} \times 100\% = 10.418\%$$

$$C.V = \frac{\sigma_y}{\bar{Y}} \times 100\% = \frac{1.399}{1.462} \times 100\% = 18.74\%$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{-1.86672}{\sqrt{5.9419 \times 13.7035}} \\ &= -0.2068 \end{aligned}$$

The above result shows that there is positive relation between targeted and actual ghee sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \times \frac{(1-(0.2068)^2)}{\sqrt{7}} \\ &= 0.244035 \end{aligned}$$

Here 'r' is smaller than P.E(-0.2068 < 0.244035). It is not all significant.

## Appendix 15

### Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Panner Sales ( in Lakhs.)

Year	Targeted (X)	Actual (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2060/61	31	30.66	-37.76	-22.79	1425.82	519.384	860.5504
2061/62	39	29.50	-29.76	-23.95	885.658	573.60	712.7520
2062/63	43.36	49.00	-25.4	-4.45	645.16	19.80	113.0300
2063/64	48	62.00	-20.7600	8.55	430.98	73.10	-177.4980
2064/65	67	70.00	-1.7600	16.55	3.0976	273.90	-29.1280
2065/66	132	50.00	63.2400	-3.45	3999.298	11.90	-218.1780
2066/67	120.96	83.00	52.2	29.55	2724.840	873.20	1542.5100
	481.32	374.16			10114.848	2344.90	2804.04

Targeted Data

$$\text{Mean}(\bar{X}) = \frac{481.32}{7} = 68.76$$

$$S.D(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{10114.824}{7}} = 38.01$$

$$C.V = \frac{\sigma_x}{\bar{X}} \times 100\% = \frac{38.01}{68.76} \times 100\% = 55.27\%$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{-2804.0384}{\sqrt{10114 \times 2344.88}} \\ &= 0.5757 \end{aligned}$$

Actual Data

$$\text{Mean}(\bar{y}) = \frac{374.16}{7} = 53.45$$

$$S.D(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{2344.88}{7}} = 18.3025$$

$$C.V = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{18.302}{53.45} \times 100\% = 34.241\%$$

The above result shows that there is positive relation between targeted and actual paneer sales data. Calculation of Probable Error (P.E) of Karl Person’s Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \times \frac{(1-(0.5757)^2)}{\sqrt{7}} \\ &= 0.17044 \end{aligned}$$

**Appendix 16**

**Calculation of mean, S.D, Coefficient of variation and correlation of DDC’s Targeted and Actual Ice-Cream Sales ( in Lakhs.)**

Year	Targeted (X)	Actual (Y)	x= X - $\bar{X}$	y=Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	Xy
2060/61	50.266	32.75	-5.029	-8.017	25.29	64.272	40.3175
2061/62	38.5	27.62	-16.795	-13.147	282.072	172.84	220.8039
2062/63	35	31.00	-20.295	-9.767	411.89	95.39	198.2213
2063/64	39	32.00	-16.295	-8.767	265.53	76.86	142.8583
2064/65	42	38.00	-13.295	-2.767	176.7570	7.66	36.7873
2065/66	81.6	39.00	26.305	-1.767	691.953	3.12	-46.4809
2066/67	100.7	85.00	45.405	44.233	2061.614	1956.56	2008.3994
	387.07	285.37			3915.101	2376.71	2600.91

### Targeted Data

$$\text{Mean}(\bar{X}) = \frac{387.066}{7} = 55.295$$

$$S.D(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{3915.1}{7}} = 23.649$$

$$C.V = \frac{\sigma_x}{\bar{X}} \times 100\% = \frac{23.649}{55.295} \times 100\% = 42.768\%$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{2600.902}{\sqrt{3915.1 \times 2376.105}} \\ &= 0.8527 \end{aligned}$$

### Actual Data

$$\text{Mean}(\bar{Y}) = \frac{285.376}{7} = 40.767$$

$$S.D(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{2376.105}{7}} = 18.423$$

$$C.V = \frac{\sigma_y}{\bar{Y}} \times 100\% = \frac{18.423}{40.767} \times 100\% = 45.1909\%$$

The above result shows that there is positive relation between targeted and actual ice-cream sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \times \frac{(1-(0.8527)^2)}{\sqrt{7}} \\ &= 0.0375 \end{aligned}$$

## Appendix 17

### Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Cream Sales (in Lakhs.)

Year	Targeted (X)	Actual (Y)	x= X - $\bar{X}$	y=Y - $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	Xy
2060/61	28	33.00	-4.68	3.18	21.90	10.112	-14.8824
2061/62	41	31.00	8.32	1.186	69.222	1.41	9.8675
2062/63	38	27.50	5.32	-2.314	28.30	5.35	-12.3105
2063/64	32	24.70	-0.68	-5.114	0.46	26.15	3.4775
2064/65	28	21.50	-4.68	-8.314	21.9024	69.12	38.9095
2065/66	39	53.70	6.32	23.886	39.942	570.54	150.9595
2066/67	22.8	17.30	-9.88	-12.514	97.614	156.60	123.6383
	228.80	208.70			279.349	839.29	299.66

Targeted Data

$$\text{Mean}(\bar{X}) = \frac{228.8}{7} = 32.68$$

$$S.D(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{279.332}{7}} = 6.317$$

$$C.V = \frac{\sigma_x}{\bar{X}} \times 100\% = \frac{6.317}{32.68} \times 100\% = 19.32\%$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{299.659}{\sqrt{279.332 \times 839.272}} \\ &= 0.61889 \end{aligned}$$

Actual Data

$$\text{Mean}(\bar{Y}) = \frac{285.376}{7} = 40.767$$

$$S.D(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{2376.105}{7}} = 18.423$$

$$C.V = \frac{\sigma_y}{\bar{Y}} \times 100\% = \frac{18.423}{40.767} \times 100\% = 45.1909\%$$

The above result shows that there is positive relation between targeted and actual cream sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} = 0.6745 \times \frac{(1-(0.6188)^2)}{\sqrt{7}} = 0.1573$$

It shows that correlation coefficient 'r'(i.e. 0.6188) is greater than its probable error (0.1573). Hence it is significant.

## Appendix 18

### Calculation of correlation coefficient of total actual sales and total budgeted sales of Milk and Milk Products (Rs. in lakhs)

Year	Targeted (X)	Actual (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2060/61	15611.35	13483.99	-1709.40	-1899.84	2922048.36	3609392.026	3247586.496
2061/62	16722.68	14847.72	-598.252	-536.114	357905.455	287418.221	320731.273
2062/63	16405.02	15519.11	-915.912	135.276	838894.79	18299.596	-123900.911
2063/64	15959.06	15454.48	-1361.872	70.65	1854695.34	4991.122	-96216.257
2064/65	17393.45	15358.10	72.52	-25.73	5259.15	662.0329	-1865.9396
2065/66	19281.64	15896.63	1960.71	512.796	3844383.70	262959.737	1005444.25
2066/67	19873.33	17126.81	2552.4	1742.976	6514745.76	3037965.64	4448771.25
	1212246.53	107686.84			16337932.56	7221688.371	8800550.854

$$\text{Mean}(\bar{X}) = \frac{1212.53}{7} = 17320.932$$

$$\text{Mean}(\bar{Y}) = \frac{107686.84}{7} = 15383.834$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{8800550.854}{\sqrt{16337932.56 \times 7221688.371}} \\ &= 0.810 \end{aligned}$$

The above result shows that there is highly positive correlation between Total Targeted and Total Actual Sales in DDC.

## Appendix 19

### Milk and Milk Product tactical (Short-Term) plan

S.No.	Month	Milk (Ltrs)	Makhan (Kgs)	Curds (Ltrs)	Cheese (kgs)	Ghee (Kgs)	Paneer (Kgs)	Ice Cream (Ltrs)
1	Baisakh	5457000	28900	110000	15300	78500	5400	3800
2	Jestha	5132000	35800	95000	16000	78000	5350	4000
3	Ashad	5672000	30200	96000	14800	81500	5200	3700
4	Shrawan	5832000	24700	93000	15400	77000	5050	3300
5	Bhadra	6122000	23300	89000	15500	76400	5150	3800
6	Aswin	6831000	31700	90000	14700	78000	5600	3850
7	Kartik	5324500	31800	91000	15100	80000	6400	3650
8	Mangsir	5124500	28300	93500	16200	85500	6300	3200
9	Poush	6847000	28200	90500	15300	72100	4400	2800
10	Magh	4853000	19200	91000	16000	82000	6100	3000
11	Phalgun	4272000	16900	96000	16200	78000	6300	3350
12	Chaitra	4028000	18000	76000	13500	70000	5650	3550