Chapter-1
INTRODUCTION

1.1 Background

Nepal is a predominately a landlocked agricultural country. Agriculture, fisheries and forestry altogether accounts for some 39.5 percent of the country's GDP. About 80 percent of the Nepalese populations are primarily engaged in agriculture sector and about 86 percent of the population still resides in rural areas being engaged in agriculture related subsistence economic activities. According to the second country cooperation framework for 2002-2006, during the year 1990 to 2000 (AD), the average growth rate of GDP was around 5 percent. Nepal is a developing country with a per capital gross national product of Nepalese $220 a year and GDP growth rate at producer price is 5.9 percent.

NRB, Macro economic indicator 2006 shown, the growth of GDP at constant price of the fiscal year 1994-1995) fluctuates over the past six year from the peak of 6% in the FY 1999-2006 to lowest level of -0.4% in the FY 2001/02.The economic rebounded by 3 percent in the F/Y 2002/03 and was stagnant at 3.5 percent in the F/Y 2003/03.Overall performance of the economy in the FY 2004/05 decelerated to 2.3 percent growth rate of GDP highly cover growth rate of population in Nepal. Finance minister recently predicts 5 percent growth of GDP in budget speech in the F/Y 2063/064

Along with the starting of five year planned development, government has established various public enterprises in different sector for the economic development of Nepal. Now there are 36 Public Enterprises in Nepal. Among them DDC is one of the major PEs established under the corporation Act 2021 B.S. The dairy development activities in Nepal started in Tusal village of Kavre district along with the establishment of Central Dairy Plant on experimental basis with small scale processing plant under the department of agriculture. In 2010 B.S. at the initiation of Dairy Development Board, the Central Dairy Plant was established.

The Dairy Development Commission was formed in 2012 B.S. In this way, since the demand of milk product has been increasing day by day, the formation of dairy plant becomes necessary. At Bhotahity due to lack of space, Central Dairy Plant which established in 2010 B.S. was shifted to Lainchour in the year 2013B.S.DDC was constituted to guide the dairy development section .At that time Swiss Association provided dairy experts for technical activities since then it has started milk collection processing and marketing activities.

Dairy Development Commission was converted into "Dairy Business Development Commission" in 2019 B.S. Ultimately in Shrawan 1, 2026 B.S., DDC was established under the Corporation Act, in 2021 B.S. by the government. DDC is totally owned by the government of Nepal, the performance of DDC was very measurable. As a result, DDC is suffering from heavy loan. DDC is receiving financial support in the form of grants and loans requiring payment of interest from World Food Program (WFP), New Zealand Government, Danish Government and USAID etc.

DDC ,a fully state owned corporation, initiated for the economic advancement of the poor farming communities, has flourished into a nationwide movement with an annual collection of over 60 million liters of milk from more than 75 thousands milk producers through 888 milk cooperatives spread out in 33 district with the state of infrastructure comprising of fully modern dairy plants. 11 cheese manufacture units, 45 milk chilling plants and highly qualified diary specialist. DDC is the precious assets in the economic development of our nation. Its slogan is **"The endless way to eat milk deliciously".** The main objectives of DDC is to provide appropriate price and guaranteed a regular market for rural areas milk producers by providing processed milk & milk products to the people of urban areas.

Though DDC was established about 40 years ago, it is still in its adolescent stage with respect to its financial standing, milk collection preserving and all work performance because of its continuous failure to generate profit for many years. However, from the fiscal year 2057/58, DDC is reducing its loss. In the fiscal year 2059/60, DDC has

generated profit of Rs.8.9 million. In the fiscal year 2060/61 DDC has generated profit of Rs. 14.1 million. Now the net worth of DDC is positive which shows a positive trend heading towards the betterment of DDC in the future too.

1.2 Objectives of DDC

The objectives of DDC are:

• To provide a guaranteed market for milk to the rural farmers with fair price.
• To supply pasteurized milk and milk products to urban consumers.
• To develop organized milk collection system to meet increasing demand for pasteurized milk and milk products.
• TO develop an organized marketing system for milk and milk products in urban areas.

Besides the above objectives, DDC was established for providing incentives to farmers for collecting hygienic milk to the customers. Milk is that type of food which contains protein, carbohydrate, minerals and vitamins. For the reason, milk and milk products are realized very important to keep the people healthy. DDC has been collecting cow, buffalo and chauri milk from 33 districts. Milk is collected through the farmers owned, Milk producers Cooperative Societies (MPCS). Its present milk collection network has spread from Panchthar in the East to Surkhet in the West.

Hetauda Milk Supply Scheme also supports KMSS & BMSS by supplying excess milk above their local requirement. Biratnagar Milk Supply Scheme manufactures skimmed milk powder from its excess milk from other supply schemes.

DDC has been playing a special role in contributing to uplift the economic status of rural farmers. Thus dairy has been recognized as an effective tool for poverty alleviation. In the fiscal year 2062/2063 DDC purchased about (approx.) 1, 50,000 liters of milk per day from the farmers. DDC's current projects are Kathmandu Milk Supply Scheme, Biratnagar Milk Supply Scheme, Hetauda Milk Supply Scheme, Lumbini Milk Supply Scheme, Mid Western Milk Supply Scheme and Milk product production & Supply

Scheme. A total number of 788 Permanent staffs are working in the organization. Apart from these, there is also temporary staffs working in the organization

The channels used by DDC to sale their milk and milk products are as follows:

S. No.	Projects	Franchise	Milk Sales Booth	Sales Center	Dealer	Distributor
1	KMSS	-	1066	-	-	-
2	BMSS	-	122	2	36	3
3	HMSS	-	185	2	4	1
4	LMSS	-	47	1	8	-
5	MPPSS	11	-	3	-	5
Total		11	1420	8	48	8

Source: DDC

1.3 Products of DDC

Dairy Development Corporation is a leading manufacturer of standardized pasteurized milk, full cream milk, sterilized flavoured milk (DDC Fresh), cream, yoghurt, ice-cream, yak cheese, cheese spread, kanchan cheese, mozzarella (pizza) cheese, processed cheese, paneer, ghee, yak ghee, butter, lalmohan, rasbari, peda, gudpak and Jeera butter milk.

1.3.1 DDC Milk:

The milk collected from rural areas is standardized to contain 3percent fat and 8percent solids-Not Fat (S.N.F.) and pasteurized by HTST pasteurizer. Milk is heated to 73 degree centigrade for 15 seconds and promptly cooled to 4-5 degree centigrade. DDC also supplies pasteurized milk containing 5percent fat and 8percent S.N.F.

1.3.2 DDC Paneer

Paneer is one of the indigenous varieties of milk products obtained from fresh buffalo milk .It contains 70-71Percent moisture 29-30 percent total milk solids and 13 percent milk fat. The paneer comprises 50 percent of fat on dry matter basis and 18 percent of protein.

1.3.3 DDC Yoghurts Dahi

Dahi is one of the best known and most popular fermented milk products consumed by large section of the population throughout the country. Dahi Made from wholesome milk and enriched with proteins and carbohydrates, DDC produces two varieties of Dahi .i.e. DDC sugar free dahi and ordinary dahi. Top of the line Sugar Free Dahi 100 percent unadulterated milk, robust and intense with flavour. It is also suitable for diabetic consumers. Ordinary Dahi generally contains 5 Percent fat, 10 percent MSNF and 4 Percent additional sugar and in sugar free Dahi 3 percent fat and 12 Percent MSNF. Sugar Free Dahi available in 1, 2 & 5 liter in earthen pot and 1/2 liter in pouch and Ordinary Dahi Available in 1, 2 & 5 liter in earthen pot & 1/2 liter in pouch, 100 ml and 200 ml in cups.

1.3.4 Ice-Cream

It is a frozen dairy product having rich source of calcium, phosphorous and other minerals. Ice-cream contains permitted food colors, edible flavors and permitted stabilizers not exceeding 0.5 percent by weight. It contains 10 percent milk fat and 3.5 percent total solids.

1.3.5 Butter

Butter is the solidified fat of milk, obtained from cream usually by chumming. It contains soluble vitamins A,D,E and K. It contains 80 percent fat, not more than 2 percent curd and 2Percent common salt. It also contains 16Percent moisture.

1.3.6 Yak Cheese

Yak cheese is a product of high altitude of alpine region of Nepal obtained from yak milk. It contains not more than 43 percent moisture and 2.5 percent of edible salt. It shouldn't contain less than 45 percent milk fat on dry matter basis. It is considered a special variety of cheese in Nepal.

1.3.7 Kanchan Cheese

Kanchan cheese is pure cow milk cheese manufactured in Panchthar and Illam districts of the eastern region of Nepal. This is the best cheese in Nepal and has good market. The chemical composition of Kanchan cheese is more or less similar to yak cheese but differs in taste, flavor and texture.

1.3.8 Ghee

Ghee is the pure clarified fat derived solely from cow and buffalo milk in which no color is added. It contains not more than 0.5 percent moisture and not less than 99.5 percent fat. It has 28 R.M. value and 27.28 lodine value

1.3.9 DDC Sweets

DDC is also make Sweets. Rasbari, Lalmohan and Peda are made with wholesome milk and delicately flavored with just the right spices. DDC Sweets make every occasion a memorable one.

1.4 Statement of the problem

Economic prosperity depends upon a sustainable economic development. For this attainment of accelerated economic development in the country, industrialization is as important as that of agriculture and other primary sectors. Industrialization, in the process of value added contribution, creates new employment opportunities and economic integration. As long as this sector can not be expanded on a promotional basis, proper development of economy is not possible. However, owing of constraints in the supply of raw material, basic infrastructure and low purchasing power of people, underdeveloped capital market and lack of technological advancement and so on, industrialization has far been of laggard phenomenon and has been able to make the desire head way.

Profit planning itself is a tool which can handle organization's present profit situation smoothly. Incase of DDC profit planning and control tools and techniques may guide to create profit. DDC is a leading diary with government subsidy and lots of heavy resources. DDC has no dearth of market for its any product. DDC itself is an established logo which is making DDC a market leader in every aspect of dairy product. However it is suffered by losses. Although low resourceful, small competitor is generating the profits which is run under private management and growth rate is many times higher than DDC.

The problem of DDC is that there is no constant in profit, some year it has profit and in some year it has heavy loss. There was loss in the F/Y 2058/2059 whereas in the F/Y 2059/2060 and 2060/2061 there were profit .But again in the F/Y 2061/62 and 2062/63 there were loss. Success is not a matter of chance and profit does not happen so easily. It is to be planned and managed. Cost-Volume-Profit analysis provides the techniques of profit planning frame-work. Based on the annual report published, performance of Nepalese industries can not be considered as satisfactory. Poor performance is the outcome of poor planning, controlling and decision-making. This has raised the questions whether Nepalese's mangers are competent enough?

1.5 Objectives of the study

The main purpose of this study was to examine use of Cost Volume Profit analysis as a managerial tool in DDC for profit planning. The others specific purposes of the study are as follows:

- To study the trend of cost and profit
- To study relationship of Cost, Volume and Profit as a managerial tool of profit planning
- To analysis the Cost Volume Profit of the corporation and its impact in profit planning.
- To evaluate the profitability, financial position and sensitivity of DDC.
- To analyze the budget target and its achievement along with the reason of deviation, if any.
- To provide suggestions and recommendations for improving DDC's financial situation.

1.6 Limitations of the study

In the dynamic world nothing is free from limitations. This study also is not an exception. The research has however tried to overcome from the limitations to the best possible extent yet it suffers from the following limitation

I. The study was based on secondary data.
II. The cost volume profit aspects of the DDC were analyzed leaving other areas uncovered.
III. The study covered a period of five fiscal years data.
IV. Primary data was collected through informal discussion with the personnel of the DDC.

1.7 Organizational of the study

The study has been divided into five chapters. The title of each of these chapters as follows:

Chapter I	Introduction
Chapter II	Review of Literature
Chapter III	Research Methodology
Chapter IV	Presentation and Analysis of Data
Chapter V	Summary Conclusions and Recommendation

Chapter I: Introduction

The introduction chapter deals with the general background of DDC, statement of the problem, purpose of the study, organization of the study.

Chapter II: Review of Literature

The second chapter focuses on review of literature. It contains the past research literature on CVP analysis which gives the gaps of previous research works and this research work. In conceptual review it includes mainly fundamental concepts, components and importance of profit planning specially Cost Volume Analysis.

Chapter III: Research Methodology

The third chapter deals with research mythology to be adopted for the study to satisfy the purpose of the study. This chapter consists of research design, sources of data, population and sample and instrument and data processing.

Chapter IV: Presentation and Analysis of Data

The fourth chapter deals with presentation, analysis and interpretation of data as required by the purpose stated in this study. These collected data will be analyzed and interpreted by the help of various tools and techniques.

Chapter V: Summary Conclusions and Recommendation

The last chapter covers summary, conclusion and recommendations so that the whole picture of the study can be understood in short form.

Chapter II

REVIEW OF LITERATURE

2.1 Conceptual Review

Profit planning and control is an important approach, mainly in profit –oriented enterprises. Profit planning is merely a tool of management. It is not an end of management or substitute of management. It facilitates the managers to accomplish managerial goals in systematic way.

The management will be efficient if it is able to accomplish the objective of the enterprise. It is effective, when it accomplishes the objectives with minimum effort and cost. In order to attain long-rang efficiency and effectiveness, management must chart out its course of action in advance. A systematic approach that facilitates effective management performance is profit planning and control, or budgeting. Budgeting is therefore integral part of management. In a way, a budgetary control system has been described as a historical combination of a goal- setting machine for increasing an enterprises profit, and " goal –achieving, machine for facilitating organizational co-ordination and planning while achieving the budgeted targets. "

Profit is the ultimate goal of every business house. They involve in business for making profit. Profit can not be achieved easily. It should be managed well with better managerial skills. So profit is the planned and controlled output of management. By element, profit is the difference of revenue and cost. Profit plan, thus refers to the planning of revenue (i.e. increase the revenues), and planning of cost (i.e. increase the efficiency of cost).

Comprehensive profit planning and control is a new term in the literature of business. Though it is new term, it is new concept in management. The other terms, which can be used in same context, are comprehensive budgeting, managerial budgeting, and simply

budgeting. The profit planning and control can be defined as process/technique, of management that enhances the efficiency of the management.

Some definitions given by various scholars are:

Comprehensive profit planning and control is a systematic and formalized approach for accomplishing the planning, co-ordination and control responsibilities of management, as defined by (Welsch, 2000:30)

Similarly Lynch and Willamson has defined profit planning and control as the concept of a comprehensive budget cover its use in planning, organizing and controlling all the financial and operating activities of the firm in the forth coming period according to.

2.1.1 Role of profit planning and control

An effective budgeting system is vital to the success and survival of a business firm. Without a fully coordinated budgeting system, management cannot know the direction the business is taking out. Organizations that do not plan are likely to wonder aimlessly succumb to the swirl of current events. Other benefits of budgeting or profit planning and control are:

- Basic policies developed as the pre-requisites of profit planning and control show direction to the business.
- It provides definite goals and objective that serve as benchmarks for evaluating subsequent performance.
- It compels and motivates management to make an early and timely study

2.1.2 The Basic Elements of PPC

The basic elements of PPC are as follows:

1. Comprehensive and co-ordinate plan: PPC is the plan for future expectation of firm's budget for all departments. It is prepared after co-coordinating them for

various segments of the enterprise. That budget is known as comprehensive budget for profit planning.

2. Expressed in financial terms: PPC is always quantified in financial terms. Initially budgets must be developed in terms of various quantities, but finally they must be expressed in the monetary units i.e. Rupee, Dollars, Pounds etc.
3. Plan for operational resources and expenses: PPC is a mechanism to plan for the firm's operations or activities. The two aspects of every operation are revenue and expenses. The PPC must plan for revenues and expenses related to a specific operation. The planning for resource will include planning for assets and source of funds.
4. Long term future plan: PPC should be meaningful only when it related to a specified period of time. The budget estimates will be relevant only for some specific period.

2.1.3 How Is It Used?

The profit plan is used in the following ways:

1. Evaluating operations**:** Each time actual sales and costs contained in income statement are compared with those projected in original profit plan. This permits detection of areas of unsatisfactory performance so that corrective action can be taken.
2. Determining the need for additional resources such as facilities or personnel**:** For example, the profit plan may show that a sharp increase in expected sales will overload the company's billing personnel. A decision can then be made to add additional invoicing personnel, to retain an EDP service, or to pursue some other alternative.
3. Planning purchasing requirements**:** The volume of expected sales may be more than the business' usual suppliers can handle or expected sales may be sufficient to permit taking advantage of quantity discounts. In either case, advance knowledge of purchasing requirements will permit taking advantage of cost savings and ensure that purchased goods are readily available when needed.

4. Anticipating any additional financing needs**:** With planning, the search for needed funds can begin as early as possible. In this way, financial crises are avoided and financing can be arranged on more favourable terms.

2.1.4 Advantages of Profit Planning

Profit planning offers many advantages to business. The modest investment in time required to develop and implement the plan will pay liberal dividends later. Among the benefits that your business can enjoy from profit planning are the following:

- Performance evaluation**:** The profit plan provides a continuing standard against which sales performance and cost control can quickly be evaluated.
- Awareness of responsibilities**:** With the profit plan, personnel are readily aware of their responsibilities for meeting sales objectives, controlling costs, and the like.
- Cost consciousness**:** Since cost excesses can quickly be identified and planned, expenditures can be compared with budgets even before they are incurred, cost consciousness is increased, reducing unnecessary costs and overspending.
- Disciplined approach to problem-solving**:** The profit plan permits early detection of potential problems so that their nature and extent are known. With this information, alternate corrective actions can be more easily and accurately evaluated.
- Thinking about the future**:** Too often, small businesses neglect to plan ahead; thinking about where they are today, where they will be next year, or the year after. As a result, opportunities are overlooked and crises occur that could have been avoided. Development of the profit plan requires thinking about the future so that many problems can be avoided before they arise.
- Financial planning**:** The profit plan serves as a basis for financial planning. With the information developed from the profit plan, you can anticipate the need for increased investment in receivables, inventory, or facilities as well as any need for additional capital.

- Confidence of lenders and investors**:** A realistic profit plan, supported by a description of specific steps proposed to achieve sales and profit objectives, will inspire the confidence of potential lenders and investors. This confidence will not only influence their judgment of you as a business manager, but also the prospects of your business' success and its worthiness for a loan or an investment.

2.1.5 Limitations of Profit Planning

Profit plans are based upon estimates. Inevitably, many conditions expected will change. Crystal balls are often cloudy. The further down the road one attempts to forecast, the cloudier they become. In a year, any number of factors can change, many of them beyond the control of the company. Customers' economic fortunes may decline, suppliers' prices may increase, or suppliers' inability to deliver may disrupt your plan.

The profit plan requires the support of all responsible par- ties. Sales quotas must be agreed upon with those responsible for meeting them. Expense budgets must be agreed upon with the people who must live with them. Without mutual agreement on objectives and budgets, they will quickly be ignored and serve no useful purpose.

Finally, profit plans must be changed from time to time to meet changing conditions. There is no point in trying to operate a business according to a plan that is no longer realistic because conditions have changed.

Despite the limitations of profit planning, the advantages far outweigh the disadvantages. A realistic plan, established yearly and re-evaluated as changing conditions require will provide performance guidelines that will help you control every aspect of your business with a minimum of analysis and digging for financial facts.

1. To communicate expectation to all the concerned with the management of the firm so that they understand, support and implement.
2. To provide details plan of action for reducing uncertainty and for its proper direction of individual and group efforts to achieve goals.

3. To co-ordinate the activities and efforts in such a way that the use of resources is maximized.
4. To provide a means of measuring and controlling the performance of individuals and units and to supply information based on which the corrective action can be taken.

2.1.6 Profit

Profit is the primary measure of business success in any economy. If a firm cannot make profit, it cannot obtain or hold capital for very long period, it cannot secure and retain other resources, such as, materials, machines, manpower, etc. In other words, the more profitable enterprises are more attractive to the holders of the available capital they have the money to buy the other needed resources. The key here is that capital and other resources are scarce, they are allocated to the profit makers in roughly descending order of their profit potential. Our economy performs this allocation function through a relatively free and open market system.

Usually profit does not occur, profit is managed. Before making an intelligent approach to the managerial process of profit planning, it is important to understand the management concept of profit. There is after all several different interpretation of the term ‘profit.’ An economist will say that profit is the reward for entrepreneurship for risk taking. A labour leader might say that it is a measure of how efficiently labour has produced and that it provides a base for negotiating a wage increase. An investor will view it as a gauge of the return on his\her money. An internal revenue agent might regard it as a base for determining income taxes. The accountant will define it simply as the excess of firm's revenue over expenditure of producing revenue in a given fiscal period.

2.1.7 Planning

Planning is the first essence of management and all other functions are performed within the framework of planning. Planning means deciding in advanced what is to be done in future. Planning starts from forecasting and predetermination of future events.

Planning is the process of developing enterprise objectives and selecting future courses of action to accomplish them Planning is one of the functions of the manager and as such, involves the section, from among alternatives of enterprise objectives, policies, procedures and programmes. It is thus decision making affecting the future course of an enterprise, planning describes what a manger intends to do.

Planning is the basic foundation of profit planning and control. Planning means thinking and deciding in advance what is to be done in future. It is a method of thinking out acts and purposes beforehand planning starts with forecast and complete with determination of future event. It is the first essences of management and all the other functions performed within framework of planning.

Planning is the hard task since it involves the ability to think periodically, to analyze and to come to decide, to control the actions of its personnel and to cope with a complex dynamic fluid environment. They bridge the gap between what they are and where they want to go. This statement obviously shows planning is a complex and hard job, planning is a tool of developing and getting organizational objectives. Planning is the function of management. Planning is essential to accomplish goals. It reduces uncertainty and provides effective direction to the employees by determining the course of action in advance.

2.1.8 Control:

Control is the process of assuring efficient performance to attain the enterprise objectives. Control provides timely information that may prompt the revision of goals. The purpose

of control is achieved with setting standards, comparing predicated and actual results against these standards and taking corrective action. Once planning is determined, it must be carried out under control. For this, managers compare actual performance against the planned performance and find out deviation taking remedial steps to remove those deviations. Control provides timely information that may prompt the revision of goals. The purpose of control is achieved with setting standards, comparing predicated and actual results against these standards and taking correctives actions.

An important aspect of control that is frequently overlooked is its relationship to the point of action or at the time of forward. In other word, it is assumed that objectives, plans, policies and standard have been developed and communicated to those managers who have the related performance responsibility.

Business managers are continually involved in organizing, planning and controlling the operation of both large and small business organization. Profit planning is one of the most important management tools used to plan and control business operations. Budgets or the profit plans are financial plans prepared as a guide to and control future operations.

The descriptive term comprehensive profit planning and control can be used in the same context as: business budgeting, managerial budgeting and budgeting. The term comprehensive profit planning and control is defined as systematic and formalized approach for performing significant phases of management planning and control functions.

2.2 Cost Volume Profit Analysis

CVP analysis applies the variable costing approach to analyze the built-in relationship between cost, volume and profit .It analyses the short term static relationship between cost, volume and profit It assumes that under constant underlying condition, CVP analysis-profit planning. This assumption of constant underlying conditions and the short term relationship however have been criticized by many authors.

The assumptions over emphasize the market sovereignty of producer (i.e. seller) rather than that of consumer. Therefore, to assume that seller has choice to sell as many as of his product in the market, at the given price fixed by him is neither true nor possible. Competitive market with a wide range of the substitute product in the market has minimized the role of the seller and has over focused on the sovereignty of the customers. Though it has been criticized by the authors, CVP analysis is powerful tool in the hands of management for profit planning.

It helps mangers understand the interrelationship between cost, volume and profit in an organization. Basically, CVP analysis involves finding the most favourable combination of variable costs, fixed costs, selling price, sales volume and mix of products sold. CVP analysis provides the manager with a powerful tool for identifying those courses of action that will and will no improve profitability.

Raibson, Barfield and Kiney, defined, Cost Volume Profit (CVP) analysis is supplementary tool of planning for profit. Cost-Volume-Profit analysis is immensely helpful for developing alternative strategies in sales planning and the cost estimation. A certain relationship exists between the variable like selling price, dales volume, expenses and taxes. Cost Volume Profit analysis is an accounting technique showing the relationship between theses variables. This technique is applicable in all economic sectors (manufacturing, wholesaling, retailing and service industries), because the same types of managerial functions are performed in each type of organization.

According to Drury Cost Volume Profit analysis is a systematic method of examining the relationship between changes in activity(i.e. output) and changes in total sales revenue, expenses and net profit as a model of theses relationship cost –volume –profit analysis simplifies the real world conditions that a firm will face. Like most models, which are abstractions from reality, CVP analysis is subject to a number of underlying assumptions and limitations, nevertheless, it is a powerful tool for decision-making in certain situations.

CVP analysis provides only on overview of the profit planning process. It provides management with a comprehensive overview of the effects on revenue &cost of all kinds of short run financial changes. It is related to profit, sales volume & cost (Munakarmi, 2002:123)

According to Horngren, Datar and Foster Cost Volume Profit (CVP) analysis examines the behaviour of total revenues, total costs, and operating income as changes occur in the output level, the output level, the selling price, the variable cost per unit, and or the fixed cost of the product.

Management can get important information and can made analysis of business with the help of cost- volume- profit analysis and cost behaviour information. It is highly essential for the management to have the complete knowledge about the interrelationship among the cost, volume and profit. A study concerning this interconnection is undertaken through cost volume profit analysis. It can be regarded as a sophisticated method or analytical tool used in management. The use of this method helps in determining the different levels of products or sales of avoid losses, to earn desired profit and so on. CVP analysis provides the management with a comprehensive overview of the effects on revenue and costs of all kinds of short-run financial changes. It is related to profit, sales volume and costs.

Cost Volume Profit summarizes the effects of changes in the organization's volume of activity on its costs, revenue and profit. That is the technique explores the relationship which exists between costs, revenue, output level and resulting profit.

2.3 Assumption of CVP Analysis

It is essential that anyone preparing or interpreting CVP information should be aware of the underlying assumption on which the information has been prepared. If these

assumptions are not recognized, serious errors may result and incorrect conclusions may be drawn from the analysis. They are as follows: (Drury, 2000:248-253)

1. All other variables remain constant:

It is assumed that all variables other than the particular one under consideration have remained constant throughout the analysis. In other words, it is assumed that volume is the only factor that will cause cost and revenues to change. However, changes in other variables such as production efficiency, sales mix, price levels and production methods can have an important influence on sales revenue and costs. If significant changes in these other variables occur, the CVP analysis presentation will be incorrect.

2. Simple products or constant sales mix:

CVP analysis assumes that either a single products is sold or, if a range of products is sold, that sales mix will be in accordance with a predetermined sales mix is used, it an depict in the CVP analysis by using average revenues ad average variable costs for a given sales mix.

BEP is not a unique number; it varies depending on the composition of the sales mix. Because the actual sales mix is different from the budgeted sales mix, the actual average unit contribution is different from that used in the budgeted BEP calculations. Thus, the BEP and the expected profits or losses at various output levels will also change. Any CVP analysis must therefore be interpreted carefully if the initial product mix assumptions do not hold.

3. Complexity-related to fixed cost does not change:

CVP analysis assumes that complexity-related cost will remain unchanged. Cooper and Kaplan illustrate that many so-called fixed cost vary not with the volume of items manufactured but with the range of items produced (i.e. the complexity of the production process).complexity-related costs do not normally vary significantly in the short run with the volume of production. If a change in volume does not alter the

range of product then it is likely that complexity-related fixed costs will not alter but if volume stays constant and the range of items produced change then support department fixed cost will eventually change because of the increase or decrease in product complexity.

CVP analysis assumptions will be violated if a firm seeks to enhance profitability by product proliferation, i.e. by introducing new variants of products based on short term contribution margins. The CVP analysis will show that profits will increase as sales volume increases and fixed cost remains constant in the short term. The increased product diversity, however, will cause complexity-related fixed cost to increase in future periods and there is a danger-which long term profits may decline as a result of product proliferation. The CVP analysis incorporates the fixed cost required to handle the diversity and complexity within the current product range, but the costs will remain fixed only if diversity and complexity are not increased further. Thus, CVP analysis will not capture the changes in complexity-related costs arising from changes in the range if items produced.

4. Profit are calculated on a variable costing basis:

The analysis assumes that the fixed costs incurred during the period are charged as an expense for that period. Therefore, variable costing profit calculations are assumed. If absorption- costing calculations are used, it is necessary to assume that production equals to sales for the analysis to predict absorption costing profits. If this situation does not occur, the inventory levels will change and the fixed overheads allocated for the period will be different from the amount actually incurred during the period. Under absorption costing, only when production equals to the amount of fixed overheads incurred are equals to the amount of fixed overheads changed as expenses.

5. Total costs and the total revenues are linear functions of output:

The analysis assumes that unit variable cost and selling price are constant. This assumption is only likely to be valid within the relevant range of production.

6. Analysis applies to relevant range only:

CVP analysis is appropriate only for decisions taken within the relevant production range and that it is incorrect to project cost and revenues figures beyond the relevant range.

7. Cost can be accurately divided into their fixed and variable element:

CVP analysis assumes that costs can be accurately analyzed into their fixed and variable element s. Even the, separation of semi-variable cost into fixed and variable elements are extremely difficult in practice. Nevertheless, a reasonably accurate analyse is necessary, if CVP analysis is to provide relevant information for decision-making.

8. The analysis apply only to a short-term time horizon:

In the short-term, the cost of providing a firm's operating capacity such as property taxes and the salaries to the senior managers are likely to be fixed in relation to the changing in activity. Decision on the firms intended future potential level of operating capacity would determine the amount of capacity cost to be incurred. This decision will have been made previously as part of the long-term planning process.

Once these decisions will have been made, they cannot be easily reversed in short-term. It takes a time to significantly expand the capacity of plant and machinery a reduced capacity. Furthermore, plant in investment and abandonment decision should not be based on short-term fluctuation in demand within a particular year. Instead, they should be reviewed periodically as part of the long-term planning process and decisions based on prediction of long-run demand over several years. Thus, capacity costs will tend to be fixed in relation to changes in activity within short-term periods such as one year. However, over long-term period significant changes in volume or product complexity will cause fixed costs to change.

It is therefore assumed that in the short-term, some costs will be fixed and unaffected by changes in volume. In the short-term, volume is the most important variable influencing total revenue, costs and profit. For this reason, volume is given special attention in the form of CVP analysis. However, in the long run, other variables besides, volume, will cause costs to change. Therefore, the long-term analysis should incorporate other variables, besides volume and recognizes that fixed cost will increase or decrease in steps in response to changes in the explanatory variables.

2.4 Terms used in CVP Analysis

Variable cost:

The cost, which varies according to the level of production or output, is called variable cost. It fluctuates in total amount but tends to remain unchanged per unit as production activity changed. Materials costs, direct cost, etc are variable cost. There is a linear relationship between the volume and variable cost i.e., the cost increases or decrease as the volume increase or decreases.

Fixed cost:

The cost, which remains unchanged to an entire range of production or output, is called fixed cost. Thus, fixed cost is the cost which remains constant in respect to the changes in the output within a relevant range, the main characteristic of fixed cost is that it is fixed within a range whereas in per unit cost, it will change. For example, rent, insurance, etc.

Semi-variable costs:

Semi-variable cost is the cost, which remains fixed to a certain range of output and varies thereafter in accordance with the change in activity. In other words, the cost which has characteristics of fixed and variable cost is semi variable costs. It is even called mixed cost. For example, lighting, indirect material, individual labor, cost of overtime, repair and maintenance, etc.

Step fixed cost:

It is the fixed cost, which remains constant up to certain level of capacity. After meeting the capacity, there is an increment in the fixed cost by certain amount. Regularly, the fixed cost will increase up to the point, where the cost meets its existing capacity.

Break Even Analysis:

Break even analysis is a logical extension of marginal costing. It is based on the same principle of classifying the operating expenses into fixed and variable. Now a day, it has become a powerful instrument in the hands of policy makers to maximize profit. The B/E analysis is a specific way of presenting and studying the inter-relationship between the cost, volume and profit. It provides information to management in the most precise manner.

The B/E analysis established a relation between the revenues and cost with respect to the volume. It indicates the level of sales at which cost and revenue are in equilibrium. The equilibrium point is normally called BEP.

2.5 Special problems in CVP analysis

CVP analysis is applied to individual products or parts of the business and to company as a whole. In the latter case, there are three special problems may be encountered.

- The Activity Based: When two or more products or activities are combined for BEP analysis, the activity based is usually in amount. Product unit is used for single product. The activity based is must be in additive units using a common denominator of volume or output in multiple products. Therefore, for the company as whole, net sales amount are usually the only satisfactory common denominator because manufacturing, selling and administrative activities are expressed in contributions.

- The change in inventory: Normally, the budgeting changes in inventories (i.e. finished goods and work-in –progress) are immaterial and thus may be disregarded in CVP analysis. On the other hand, when the changes in budgeted inventory are significant; it should be included in analysis. Including the effect of inventory changes in CVP analysis requires subjective judgements about what management might do (about making inventory changes) at different volume and the conceptual precision is desired. Management considers two practical approaches or policies are desired. Management considers two practical approaches or policies in inventory changes often used:
  a) Disregard the inventory changes
  b) Include the inventory changes

- **The non-operating incomes and expenses:** Non-operating income (gains) and expenses (losses) and extraordinary gains and losses, if materials in amount, cause another problem in CVP analysis. The basic issue is whether they should be included or excluded. Extra-ordinary gains and loses are non-recurring and unusual: therefore, they should be excluded. Non-operating incomes and expenses are recurring but they are not related to ongoing operations. Management consider the policy may be to:

a) Include the non-operating incomes and expenses;
b) Exclude the non-operating incomes and expenses:

2.6 Utility of B/E analysis

Break-even analysis is the most useful technique of profit planning and control. It is a device to explain the relationship between cost, volume and profits. The utility of the break-even analysis lies in the following advantage

- It is a simple device to understand accounting data.
- It is a useful diagnostic tool.
- It provides basic information for further profit improvement studies.

- It is useful method for considering the risk implications of alternative actions
- The break-even analysis is a simple concept to comprehend and interpret the accounting data. Many business executives and others are unable to understand accounting data contained in financial statements and reports. When these data are presents through break-even charts, it becomes very easy to grasp and interpret them. However, the executives using break-even analysis should remember the limitations of this device and should not attach too much value to it.

The break-even analysis is a useful diagnostic too. It indicates to management the causes of increasing break-even point and falling profits. The analysis of these causes will reveal to management what actions should be taken. As a practical matter, knowledge of where the break-even point lies can be quite useful to management in determining the need for action. However, an increasing break-even point should not always be a matter of alarm to management. The important information to be analyzed is break-even as a percentage of capacity. If the break-even point as a percentage of capacity is increasing, it indicates unfavourable conditions. It is this kind of situation which needs immediate action. It is possible that due to plant expansion absolute break-even point may increase, but overall capacity may be increase. This situation, where the break-even point as a percentage of capacity does not increase, is not unfavourable.

In the break-even analysis, BEP is identified and P/V ratio prepares break-even charts and p/v graphs These whole set of information is important to evaluate the reasonableness and usefulness of profit plans and other budgets and forecasts prepared by management. The break-even analysis, thus, provides the basic information for profit improvement studies and it is a useful starting point for detailed investigations.

The desirability of an action should be considered on the basic of its profit as well as risks. If profit alone is considered, a firm may commit to a risky action. The break-

even analysis, to some extent, is a useful method for considering the risk implications of alternative actions. Considering the effects of the alternative action on the break-even point can approach the problem of risk evaluation. From one alternative, a firm may expect higher profit and also a higher break-even point, while another alternative maybe produce comparatively lower profit but may also entail a lower break-even point. In taking a decision, the firm should not only consider the profits expected from the alternative but also the probability of reaching the BEP.IF the probability of achieving the BEP sales is low, the firms should prefer the second alternative where the BEP will be reached earlier.

2.7 Limitations of B/E Analysis

The BEP analysis is simple and useful concept. But it is based on certain assumptions, which have been discussed earlier. These assumptions limit the utility and general applicability of the B/E analysis.

Therefore, the analysis should recognize these limitations and adjust data, wherever possible, to get meaningful result. The B/E analysis suffers from the following limitations:

- It is difficult to separate costs into fixed and variable components.
- It is not correct to assume that the total fixed cost would remain unchanged over the entire range of volume.
- The assumption of constant selling price and unit variable cost is not valid.
- The B/E analysis is a short-term concept and has a limited use in long range planning.
- The B/E analysis is a static tool.

2.8 Review of the Previous Thesis

The cost volume profit analysis in the context of particularly in public manufacturing enterprise seems to be new subject of study for research and analysis.

Madhu Sudhan Bhatrai(2000)

Madhu sudan Bhattarai has conducted research on profit planning of non manufacturing public enterprises in Nepal – A case study of Nepal Oil Corporation limited.

The objective of this study was to appraise the performance of Nepal oil corporation ltd. And to recommend to introduce prove comprehension profit planning system. Thus the specific objectives are:

- To study the various accounting system of NOC.
- To examine the procurement and distribution channel system of petroleum oil and lubricant products
- To analyze the profit planning of NOC.
- To provide recommend and to provide suitable suggestion to the corporation.

On the basis of data presentation and their analysis the most remarkable findings relating to this study have been presented below.

1. The corporation's goals and objective are not clear.
2. The corporation has not and clear cut policy of purchase sales and inventory.
3. The corporation is planning section is very poor.
4. Lack of detail and systematic labour, capital expenditure, selling and distribution and overhead plan.
5. The decision making power in this enterprise is concentrated only in top level management.
6. NOC is unable to define clearly the duties and responsibilities of the employees.
7. There is no cost classification system.
8. Red, Tapism in implementation phase of profit plan.
9. HMG intervention through rules, regulation and circular.
10. There is no any evaluation system for capital decision making.
11. There is no performance reporting and reward and punishment system.
12. There is no arrangement of any accounting and management planning training by the corporation.
13. Pricing is governed by the government.

14. It has not any effective programs to increase the more employees.

15. Over staffing in the corporation.

16. It is fail to control labour cost.

17. The corporation prepared the capital expenditure plan. It is finalized by the executive director.

18. There is no any evaluation system to major capital decision.

19. The corporation prepares all kind of various expenses budget but there is no well developed practice of planning various expenses budget.

20. The corporation doesn't prepared cash flow statement.

21. The corporation raised fund mainly from current liabilities of total sources and available has been mainly applied to long term investment, current asses and fixed asses.

22. Its fund from operation is negative.

23. Its fund has been decrease due to loss of the current year.

24. Working capital has been decreased.

25. The corporation suffered from loss during year.

26. It has negative trend of profit, which means loss will increase in future being other things remaining constant.

27. Total assets turn over ratio is not satisfactory.

Damodar Adhikari (2004)

He has conducted the research on the topic" Profit Planning in Manufacturing Enterprises: A Case Study of the Dairy Development Corporation". This research has disclosed how effectively the functional budgets are being applied as tools for profit planning in DDC.This research is mainly based on secondary data.

Adhikari's main objective was as following.

- To analyze, the functional budgets on sales and production sector of DDC
- To analyse various accounting ratios, measure the profitability and efficiency of DDC.
- To analyse the budget target and its achievement along with reason of deviation.

- To provide valuable recommendation and suggestion based on analysis.

Adhikari has listed the following major findings:

I. DDC has practiced short term planning rather than long term planning. The time is covered by interim period and by product.

2. Production and sales of DDC is increasing annually although the growth rate is fluctuated.

3. The correlation between actual and targeted sales is positive.

4 The corporation has no proper practice in segregating cost into fixed cost and variable cost.

5. There is positive correlation between target and actual Production of Milk.

6. Most of the budgeted figures are higher than real (actual) figure.

7. DDC has applied stable inventory policy with opening stock of inventory but this policy is not applied in practice closing stocks quantity is not fixed.

8. DDC has 1% store losses and O.O5% distribution losses of milk.

9. DDC has prepared direct labor budget only based on technical and administration

It is not prepared according to time and rate.

10. Capacity utilization is very high but the production ratio is less.

11. The CVP analysis shows that DDC is operating below the break even point.

12. Flexible budget of DDC shows 90% variable cost of sales revenue. DDC is suffered from a large amount of variable cost

13. DDC utilized corporate fund as long term loan and/or or from international agencies like USAID.

14. DDC has not been practicing to plan effectively execution of program by supervision & monitoring.

I5. DDC has not clear attainable objectives, policies and strategies.

16. The present management does not have any program of perfect planning.

17. Timely accounting and auditing works are not maintained.

18. Financial statements and accounting system are out of the financial rules.

Chaturbhuj Aryal (2006)

The objective of "CVP as a tool to measure effectiveness of profit- A case study of herbs production and processing company limited" was following.

- To analyse the variances between target and actual sales of HPPCL.
- To evaluate the profitability, financial position of HPPCL.
- To analyse the cvp of HPPCL.
- To provide suitable suggestions and recommendations based on the analysis for improving of HPPCL condition etc

The major finding of the study was as following:

1. The budgeted sales and actual sales are in fluctuating trend. Actual sales lower than budgeted sales.
2. The company doesn't apply any appropriate and effective sales forecasting techniques.
3. The correlation of coefficient between budgeted sales and actual sales is positive. It indicates that increasing in the budget sales would also increase in actual sales or vice versa.
4. Planning premises is communicated from top to middle level.
5. There is no cost classification system in the company. The costs are not segregated in to fixed cost and variable cost in a systematic manner.
6. Periodic performance report has not been mainly trained to find the underlying causes of poor achievement.
7. HPPCL has practice of making tactical budget to same extent but it has not practice of preparing strategic budget.

8. The gross profit margin has fluctuated, i.e. 16.8143 to 32.1043 percent, which indicates the low performance of the company.
9. The net profit margin has too low, i.e. -57.6181 to -16.3906. It seems to be most unsatisfactory.
10. The operating ratio of the company is higher than the normal. There is existed little gap between actual sales and operating expenses, which implies that the margin is too low.
11. The average of degree of operating leverage is highly fluctuated from negative to 19.0778 times, which means the company observed more fixed costs.
12. There is no clear record of each products contribution of profit, or in fulfilling the establishing objectives.
13. The profit volume ratio has not constant and sufficient profit too.
14. Sales forecasting is not based on the realistic ground. HPPCL only use the sales force composite method n sales forecasting but it has not practice of using statistical techniques in sales forecasting.
15. There is a serious lack of management expertise, which has led to formulation of unrealistic, haphazard plans. The variances are unfavourable and very high.
16. Variable costs have more portions as compared to fixed costs.
17. The BEP of the company has been in fluctuated trend. There is a gap between actual sales and BE sales.
18. Margin of safety is in negative fluctuated trend. Margin of safety is very lowest, so the company is in huge loss.
19. There is no any special system of taking corrective action for re-planning.
20. The pricing policy of the company is not scientific.
21. HPPCL fails to maintain its periodic performance report systematically.

Sujita Ghale (2006)

The main objective of the study Cost Volume profit analysis as a tool to measure effectiveness of profit planning and control of Nebico pvt. Ltd. were as following:

- To study relationship of cost, volume and profit and profit as tool of budgeting.
- To analyze the cost volume profit of the company and its impact in profit planning
- To evaluate the sensitivity of profitability.
- To provide suggestion and recommendation for improving Nebico's condition.

The major findings upon analysis of Nebico Pvt. Ltd's activities for study period were as follows:

- There is great lack of skilled employees to prepare budgeting and analyze their financial position.

- Nebico has relatively high fixed cost (i.e. interest, depreciation, repair Salary and wages, provident fund subsidies etc)

- The Company has no detailed lists of fixed, variable expenses. No specific list is available for mixed expenses planning which is significant in profit planning and control.

- Sales trend of the company is fluctuating and lacks efforts to improve them.

- Variable cost of Nebico is proportionately higher than fixed or total cost hampering the overall company's profit.

- Like other manufacturing company of Nepal, Nebico has no effective plan and technique to reduce costs.

- Goals and objectives of Nebico are not clearly communicated to all levels of management.

- The Company lacks effective inventory policy raw material handling stocking, and controlling system are not systematic and efficient.

- Lacks new and systematic techniques of forecasting sales and purchase.

- Nebico is not utilizing its full capacity. No reasonable practice of segregating costs into fixed and variable or controllable and uncontrollable.

- Only one way communication channel is followed in the company and BOD holds the authority to fix prices and recruitment of employees.

- Most employees are male and employees are classified as per their skill, female participation in work force is very low.

- Nebico products - biscuits and confectioneries are supplied all over Nepal and in foreign countries too. Therefore Nebico is partially successful to substitute the important of biscuits and confectioneries.

- Nebico has tried to adopt new technology for improving quality products.

- Financial state of the company is at declining stage and requires new and effective marketing strategies to improve current position through utilizing available resources to the possible extent.

- Proper co-ordination among the production, administrative, distribution, sales and inventory department is required.

Damodar Khatiwada (2006)

The main objectives of this study is to examine Cost Volume Analysis" as a tool to measure effectiveness of PPC of "Unilever Nepal Ltd."

- To study the relationship of cost, volume and profit.
- To evaluate profitability, financial position and sensitivity of UNL activities.
- To analyze the CVP of the company and its impact on productivity
- To make the analysis of multi- Product.

Khatiwada has listed the following major findings;

- Total sales of the company are fluctuating. The contribution of domestic sales on total sales is greater than export sales.
- The company produces different products among them product toilet soaps have made highs contribution on total sales. But the sales of product tea on total sales in found nominal.

- Expenses of UNL are fluctuating variable cost as well as fixed cost increased of decreased haphazardly, but the trend of semi-variable cost decreased every year.
- The company has no details of systematic expenses plan. The fixed, variable and mixed expenses plan is the necessary elements for profit planning and control.
- The proportion of variable cost is higher than fixed cost in total cost amount which made for lower contribution margin.
- Variable cost volume ratio of UNL is nearly 80% on average. It means tat the company is about 20% of total sales.
- Profit of the UNL increased year by year though sales decreased in the same year profit increased due to the reduction of the fixed cost.
- From correlation analysis, it is found that there is low degree of positive correlation between sales and net profit. It change is happened on sales, the profit will also change but not in the same ratio.
- The profitability position of the company was satisfactory but not as expected.
- BE points decreased it is due to the decreases in fixed cost and increase in P/V ratio.
- As the company has high margin of safety. The company might be at lower risk.
- The company's operation leverage decreased which indicated decreased in operating risk of the company.

Rajendra Gurung (2008)

Rajendra Gurung has studied on Cost Volume Profit analysis of public enterprise in Nepal – comparative analysis between Nepal Telecom and Nepal Electricity Authority.
The objective of his study was as following.

i. To study and analyze the existing provisions regarding Cost Volume & Profit analysis of Public Enterprises in Nepal i.e. NT & NEA.

ii. To study & find out the current cost benefit ratios of these two public enterprises.

iii. To find out current comparative analysis between these two big public enterprises.

iv. To identify that factor that affects benefit and cost of these enterprises.

v. To identify Break Even Level for avoiding losses.

vi. To study & comparative analysis about capacity margin of safety &profits of these two big public enterprises.

vii. To recommend necessary solution of the problems.

He has found some major issues regarding NT & NEA while analyzing the data. The main important factor extracted from above analysis has described briefly in following bullets:

- The income of NEA is higher than NT in each year and expenditure of NEA is also higher than NT in same ratio.
- The expenditures ratio of NEA is higher than NT so, profit ratio of NEA is lower than NT which means NT profit line is in increasing trend while NEA profit line is in decreasing trend or negative.
- After segregated the cost into fixed & variable the percentage ratio of NT are 66 & 34 respectively whereas NEA's percentage ration are 46 & 54 respectively. In conclusion this analysis articulate that fixed ration of NT is higher than NEA whereas variable ration of NT is lower than NEA.
- Ratio of profit to sales of NT is in linear trend whereas NEA's in non-linear trend (decreasing).
- The top level executive are only involved in planning & decision making but lower level participation is not encouraged.
- According to comparative analysis of both enterprises, the researcher found as recommendations for both enterprises are –the NEA should reduce their total cost to achieve higher profit in coming year whereas NT should reduce their fixed cost in their respective up coming year.

- Break even point of NT are in parallel trend whereas NEA are in fluctuating trend. To achieve the target BEP level for NEA their sales revenue grate should be increased or total cost level should be reduced whereas BEP level of NT is quite satisfaction than NEA. and also remarkable point is NT's Contribution Margin Ratio is in high whereas NEA's Contribution Margin Ratio is in low .
- Margin of Safety of NT are in good position whereas NEA's is in negative.
- In two sensitivity analysis viz. i) Sales Revenue decreases by 5%,ii) Variable Cost decrease by 10%- effect on Break Even Point proved that its sales revenue decreases than new break even point would be gradually increased whereas if variable cost decreases then new break even gradually decreased. Thus, the effect of sales revenue and variable cost fall down by particular person will give by differently i.e.

Sales Revenue decreased by 5%> increase in break even point

Variable cost decrease by 10 %< decrease in Break Even Point

- Increasing cost in each fiscal year is another remarkable point for these enterprises. It has to be adopted the cost control measures.
- There are no clear-cut boundaries to separate cost into fixed and variable. The cost classification is not scientific and systematic.

2.9 Research Gap

Most of the previous research studies were on profit planning system of manufacturing organization or production oriented activities especially in public enterprises. The previous researches did not disclose which of the profit planning and control tools were in practice, which were not and why. The research could find only one research study so far that has been related to CVP analysis as a tool of PPC which was a case study of NEBICO Pvt. Ltd, a private manufacturing enterprise. So there was a research gap between the present and past researches. This research is conducted to fill up this research gap.

This research shall be a new one in this field as no study yet has been made so far in the CVP analysis of particularly DDC. It was a mainly based on secondary data. This study has tried to indicate the role of budgets for effective formulation and implementation of profit planning system as well as to see how far the DDC was practicing the CVP analysis. This study has analyzed the financial position of DDC by applying the tools of ratio analysis and others mathematical and statistical tools. Finally, it concludes the various findings of research based on recommendations were made.

Chapter III
RESEARCH METHOLODGY

3.1 Research design

In order to conduct any type of research, it is necessary to set research design, which fulfill of the objectives of the study. Generally, research design is comprised of defining procedures and techniques, which provide guideline to the study and pave way for the reliability of the research.

The research design of the present study was analytical as well as descriptive approaches. This study was an examination and evaluation of the relationships among cost, volume, profit and various functional budgets and other related accounting information and statements of DDC were the materials to analyze their achievement and effective application within the conceptual framework of profit planning for solving the problems.

3.2 Population and Sample

This research aimed at studying the revenue planning and CVP analysis of Diary Development and Corporation as a single corporation and data have been analyzed for whole five years of its operation. DDC was a sample and population itself.

3.3 Data Collection Procedure

This study was mostly based on secondary data. However, primary data and information were obtained through informal discussions with the executives and other related staffs of the DDC. Secondary data were collected from the annual reports of DDC, auditor's reports, Balance Sheet, Profit and Loss A/C, cost detail sheet, previous thesis and other relevant published and unpublished documents of DDC and other elated publications.

3.4 Data Processing Procedure

The research variable of the present study were mainly sales, inventories, profit and loss, and contribution margin, and break even point, margin of safety and sensitivity analysis of Dairy Development Corporation. Other variables were also used as per necessity.

3.5 Statistical Analysis

This research was confined to examine the CVP analysis of DDC. Therefore, the data were collected and managed, analyzed and presented in suitable tables, formats, figures, and charts. Such presentation were interpreted and explained wherever necessary. To analyze the secondary data collected from various sources financial and statistical and mathematical tools were used. The financial tools used were ratio analysis and cost volume analysis. Various statistical tools and mathematical tools are used.

3.6 Other Tools Used

As per the requirement of the thesis, different statistical tools of statistics such as mean, standard deviation, correlation, regression analysis are used and definitions are provided wherever necessary as well as different graphical approach are used.

Chapter IV
DATA PRESENTATION AND ANALYSIS

4.1 Sales plan of DDC

DDC did not prepare long-term sales plan. It prepare only short-term plan for the coming fiscal year.

DDC has a practice of preparing sales budget before the commencement of another fiscal year. DDC roughly prepares sales budget on the basic of past experience and performance. It does not forecast the sales for the coming period by product and sales region by assessing the marketing variables affecting the products.

The private dairy firms played leading roles in two strategically significant issues. Those were distribution channel and promotional aspects. DDC's promotional activities are insignificant. Private dairy firms approach to the costumer early in the morning with their milk pouch to cater in urban areas in which DDC lagged behind.

The starting point for the evaluation for sales revenue planning is to analyze past trends of sales revenue and its achievement. Table 4.1 shows DDC's sales revenue trends (both planned revenue and actual revenue) for the period of fiscal year 2058-59 to 2063-64.

Table 4.1

Sales Revenue Trend

For Fiscal Year 2058/59 to 2062/63

(In Rs. 00000)

	Budgeted Sales		Actual Sales	
Fiscal Year	**Amount**	**Increase %**	**Amount**	**Increase %**
2057/58	16096.90	-	14399.24	-
2058/59	16470.64	2.32	15482.4	4.27
2059/60	16727.6	1.56	15959.07	3.08
2060/61	17626.7	5.37	15358.1	-3.77
2061/62	18125.4	2.83	15896.63	3.51
2062/63	18532.9	2.25	15363.4	-3.35

(Source: Dairy Development Corporation)

The budgeted sales revenue of fiscal year 2058/59 increased by 2.32% compared to the previous fiscal year 2057/58. The actual sales revenue in the fiscal year 2058/59 increased by 4.27%. In the fiscal year 2059/60 the budgeted sales revenue increased by 1.56% whereas actual sales revenue increased by 3.08% as compared to fiscal year 2058/59. In fiscal year 2060/61 the budgeted sales revenue was increase by 5.37% and actual sales revenue was decreased by 0.38% as compare to previous fiscal year 2059/60. This decrease in sales due to frequently strike, nepalbandha and nakabandi of the capital. In year 2061/62 budgeted sales increased by 2.83% where as actual performance was increased by 3.51%. Finally 2.25% growth was on year 2062/63 on budgeted performance was decrease of 3.35% was on actual performance. The performance of DDC based on sales revenue trend was satisfactory as the increment on sales trend is fluctuating. It is necessary to compare the budgeted sales revenue and actual sales revenue of the DDC to analyze the performance of the DDC to evaluate the efficiency of the planner of DDC. Due to this reason, table 4.2 shows the budgeted sales and actual sales with their respective achievements.

Table 4.2

Budgeted sales and Actual sales revenue and achievements

For Fiscal Year 2058/2059 to 2062/63

In Rs 00000

Fiscal Year	**Budgeted sales**	**Actual Sales**	**Achievements**
2058/59	**16470.64**	**15482.4**	**94.00**
2059/60	**16727.6**	**15959.07**	**95.41**
2060/61	**17626.7**	**15358.1**	**87.13**
2061/62	**18125.4**	**15896.63**	**87.70**
2062/63	**18532.9**	**15363.4**	**82.90**

Sources: Dairy Development Corporation)

The table 4.2 showed that there was a small gap between the budgeted sales and actual sales of DDC.

It showed that actual sales were in decreasing trend. In the fiscal year 2058/59 the achievement was 94% where in the fiscal year 2059/60, it reached to 95.41%, in the fiscal year 2060/61 it decreased to 87.13%, but in the fiscal year 2061/62 it was 87.70%. Finally in the fiscal year 2062/63 it reached to 82.90%. The table showed that DDC was not able to achieve its target in any fiscal year. On the basis of the Table 4.2, it can be concluded that budgeted sales were prepared on adhoc basis and sales targets were over estimated. Planning Officers should seriously think about the previous year's performance while preparing sales plan of the coming year. There should be effective sales forecasting in DDC.

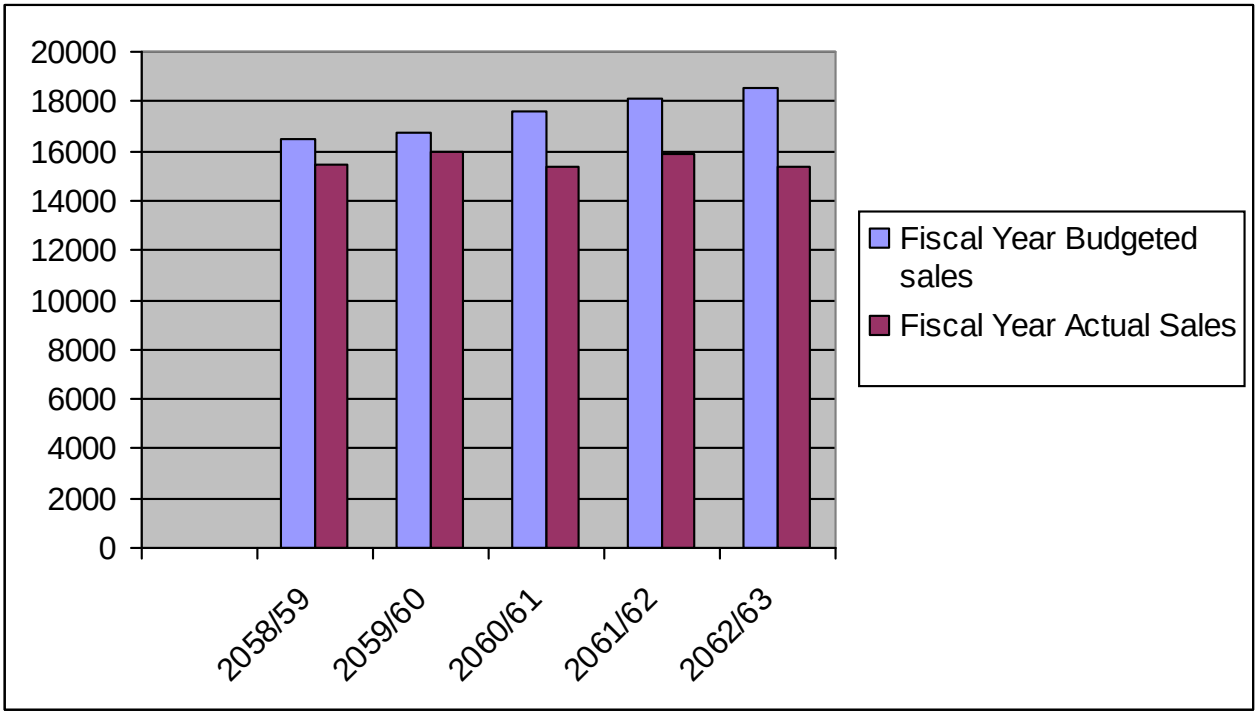
The budgeted sales and actual sales achievement can be shown with the help of bar diagram.

Fig 4.1

Budgeted sales and actual sales

Fiscal year 2058/59 – 2062-63

in Rs (00000)



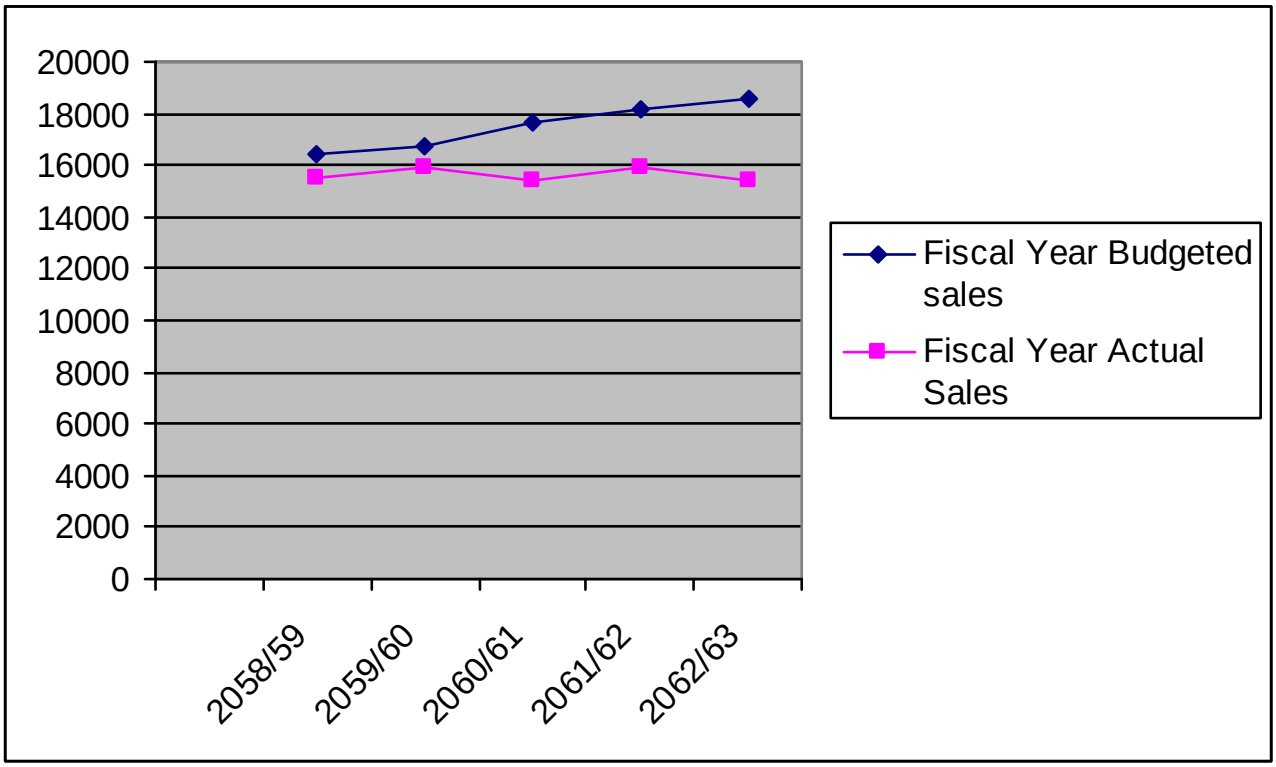
The figure 4.1 showed the relationship between the budgeted sales and actual sales revenue. It showed that there was small gap between the budgeted and actual sales achievements which were not consistent.

Fig. 4.2

Budgeted sales and actual sales

Fiscal year 2058/59 – 2062-63

in Rs (00000)



The above figure 4.2 made clear that the gaps between the actual sales and budgeted sales were broadening year by year this shows lack of efficient sales planning. In subsequent years this has broaden and therefore a realistic sales forecasting should be made.

In order to find out the nature of variability of the budgeted sales, actual sales and achievement of different years, various statistical tools were used.

Table 4.3

Summary of statistical calculation of Sales

Rs. in 00000

	BUDGETED	ACTUAL
No Year	5	5
Mean	17496.65	15611.920
Std. Error of Mean	395.613	131.25074
Std. Deviation	884.617	293.48557
Variance	782547.013	86133.78
Skewness	-.103	.512
Std. Error of Skewness	.913	.913
Kurtosis	-2.351	-3.057
Std. Error of Kurtosis	2.000	2.000
Sum	87483	78059.60

Source – Annex 1

Correlations

		BUDGETED	ACTUAL
BUDGETED	Pearson Correlation (r)	1	-.237
	Sig. (2-tailed)	.	.702
	No Of Year	5	5
ACTUAL	Pearson Correlation (r)	-.237	1
	Sig. (2-tailed)	.702	.
	No Of Year	5	5
Coefficient of variation r2		.492	

Source – annex 1

The table 4.3 showed that the value of mean and standard deviation. Mean of the budgeted sales was Rs 17496.65 and actual sales mean was Rs 15611.920. Thus this shows that actual sales was consistent than the budgeted sales. Like wise Standard deviation of the budgeted sales was 841.835 where as actual sales was 537.742. This also showed that the actual sales are more consistent in comparison to the budgeted sales.

Another statistical tools correlation was used to analyze the degree of relationship between the budgeted sales and actual sales. Karl Pearson's correlation showed that the value of correlation coefficient lies between +1 and -1. The value was .702 which showed there was positive relationship between budgeted sales and actual sales. This means that the actual sales would in increase with the budgeted sales and vice versa.

One another convenient and useful tool of interpreting the values of correlation coefficient between two variables is Coefficient of determination which is denoted r2.
The above table the value of coefficient of determination was 0.492 which revealed that the dependent variable actual sale was explained by independent variable budgeted sales up to 49.2% and the remaining part 50.8% by other factors.

Another statistical tool called least square method was used to analyze the trend of the actual sales and to estimate the possible future sales for a given time. This tool is considered as a time factor because time element is also important factor to analyze the trend. With the passage of time, the sales achievement will be changed which can be expressed by the components of time series.

A straight line trend by the method of least squares will show the relationship between the actual sales years. For the least square method, it is assumed that the sales will consistently changed with the change in time. To fit the straight line trend, time factor (X) is considered as independent variable and the actual sales achievement (Y) is dependent upon time.

Now the straight line trend by last square method for actual sales upon time is expressed by

$Y = a + bx$ _____ (1)

Where Y = actual sales achievement
X = deviation taken in time

Table 4.4

Fitting straight line trend by least squares of sales

Fiscal year	Actual sales in Rs 00000(Y)	x=X-2060-61	x2	xy
2058-59	**15482.4**	**-2**	**4**	**-30964.8**
2059-60	**15959.07**	**-1**	**1**	**-15959.1**
2060-61	**15358.1**	**0**	**0**	**0**
2061-62	**15896.63**	**2**	**4**	**31793.26**
2062-63	**15363.4**	**1**	**1**	**15363.4**
	∑Y=78302.39	**∑x=0**	**∑x2=10**	**∑xy=232.79**

Since ∑ = 0, then

a = ∑ Y/n = 78302.39/5 = 15660.478

b=∑xy/∑x2 = 232.79/10 = 23.279

Now the best fit of straight line trend is obtained by substituting the values of a and b in equation 1, we get
Y = 15660.478+23.279x

This trend line shows the positive relationship between time and actual sales achievements.

By using this trend line equation, we can estimate the actual sales for the fiscal year 2063-64 can be estimated.

The value of deviation for the fiscal year 2063-64, x=3

We have y=15660.478+23.279x

=15660.478+23.279 x =3

Rs 15730.32 Lakh

If the past sales trend does not change then the possible future actual sales will be Rs 15730.32 lakhs in the fiscal year 2063-64. The least square method application showed that the trend of the actual sales will have an increasing pattern.

Like wise sales the forecast for the fiscal year 2065-66 can be made.

For the fiscal year 2065-66, value of x=5,

We have y=15660.478+23.279x

=15776.873

If the past sales trend does not change then the possible future actual sales will be Rs 15776.873 in the fiscal year 2065-66.

4.2 Expenses Plan of DDC

DDC it lacks adequate and effective policies regarding expenses plan. DDC has no well developed practices and approaches for controlling or reducing various types of expenses or cost.

The table 4.5 showed that the actual expenses of the DDC such as Collection, processing, selling, administrative, interest, depreciation and gratuity expenses from the fiscal year 2058-59 to 2062-63.

Table: 4.5
Actual Expenses Plan
For fiscal year 2058-59 to 2062/63

In Rs '00000'

	Fiscal year				
Expenses items	**2058/59**	**2059/60**	**2060/61**	**2061/62**	**2062/2063**
collection expenses	**11421.54**	**11984.82**	**11276.53**	**11323.17**	**11447.08**
Processing expenses	**2734.14**	**2713.13**	**2338.38**	**3463.25**	**2841.71**
Selling Expenses	**386.33**	**409.05**	**393.03**	**410.93**	**426.81**
Administrative expenses	**830.67**	**799.99**	**611.31**	**766.92**	**735.29**
Gratuity Expenses	**54.27**	**53.24**	**174.5**	**353.1**	**537.53**
Deprecation Expenses	**300.02**	**294.29**	**299.94**	**294.06**	**317.18**
Interest Expenses	**116.34**	**115.84**	**43.19**	**45.22**	**46.63**
Total	**15843.31**	**16370.36**	**15136.88**	**16656.65**	**16352.23**

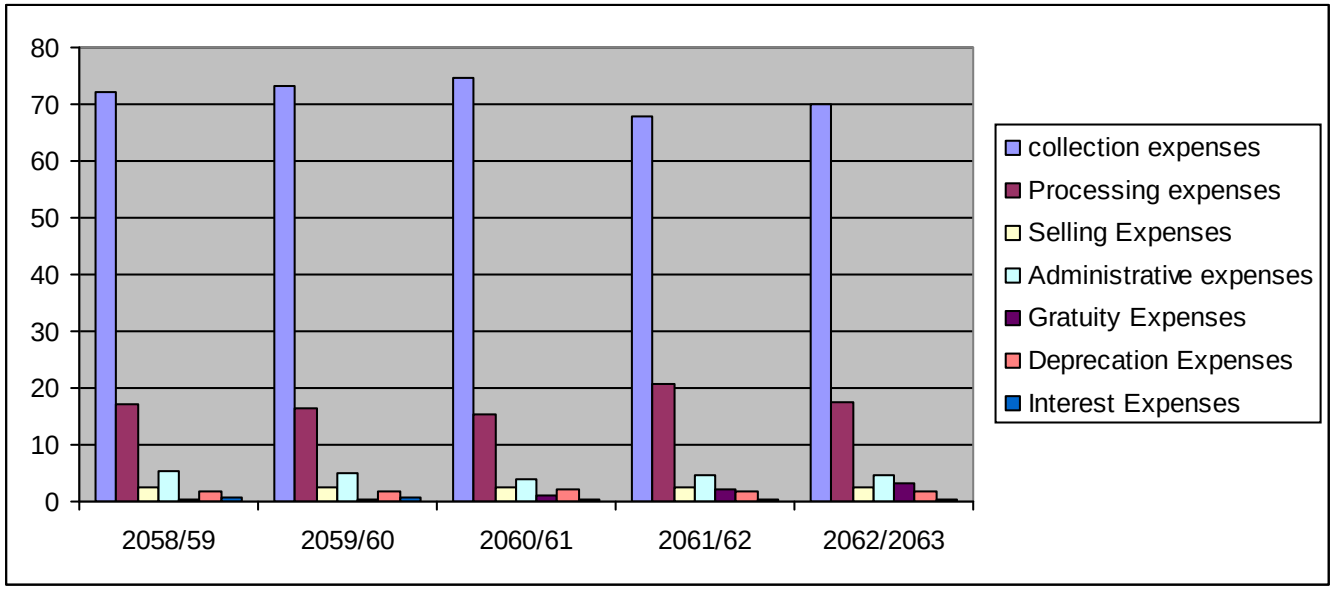
The collection expenses covered the maximum proportion of the total cost of DDC and gratuity cost covered the least proportion

Fig 4.3

Actual Expenses Plan

For fiscal year 2058-59 to 2062-63

In Rs 00000



4.3 Trends of expenses of DDC

For planning of expenses it is necessary to know about the trend of expenses. The expenses trend analysis shows which cost is decreasing and which cost is increasing which helps for planning and controlling of expenses. Due to this reason this research work analyzed the expenses trend of DDC. The Table 4.6 shows the expenses trend of DDC from the fiscal year 2058-59 to 2062-63.

Table 4.6

Expenses Percentage trend of total expenses.

For Fiscal year 2058-59 to 2062-63

Fiscal year

Expenses items	2058/59	2059/60	2060/61	2061/62	2062/2063
collection expenses	72.09	73.21	74.50	67.98	70.00
Processing expenses	17.26	16.57	15.45	20.79	17.38
Selling Expenses	2.44	2.50	2.60	2.47	2.61
Administrative expenses	5.24	4.89	4.04	4.60	4.50

Gratuity Expenses	**0.34**	**0.33**	**1.15**	**2.12**	**3.29**
Deprecation Expenses	**1.89**	**1.80**	**1.98**	**1.77**	**1.94**
Interest Expenses	**0.73**	**0.71**	**0.29**	**0.27**	**0.29**
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

The table 4.6 showed that the collection cost was more or less similar throughout the study period from the fiscal year 2058-59 to 2062-63. The average collection expense was 71.56% of total expenses which was the largest expenses of DDC. The minimum collection expense was 67.98% in the fiscal year 2061-62 where as 74.50% was the highest in the fiscal year 2060-61.

The selling expenses, administrative and depreciation expenses were also in a same trend. The average processing expenses was 17.49% of total expenses. The minimum processing cost was in the fiscal year 2060-61 representing 15.45% where as 20.79% was the highest in the fiscal year 2061-62. Like wise average selling expenses was 2.52% of total cost. Administrative expenses mean was 4.65% where as average depreciation cost was 1.88%.

Gratuity expense and interest expenses were also more or less recording 1.45% and 0.46% as mean for the entire research period. Thus collection expenses occupied the major share of expenses of DDC. Other expenses do not have substantial portion on the total expenses.

4.4 Identification of Cost Variability

DDC has not yet made cost classification of costs into fixed and variable costs. The fixed costs are beyond the capacity of control by DDC where as variable cost are controllable to some extent. Here the expenses are classified by judgmental basis into fixed and variable cost.

Table 4.7 explains about the cost variability of the cost of DDC for the study period.

Table 4.7

Identification of cost

For Fiscal year 2058-59 to 2062-63

In Rs '00000'

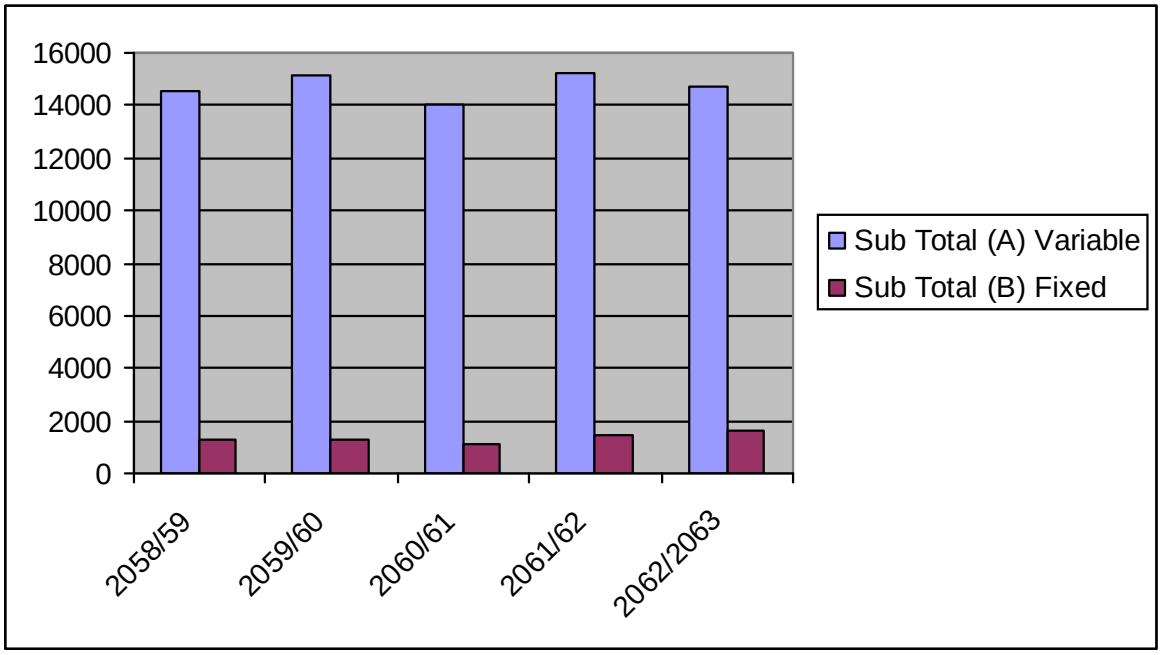
Expenses items	Cost Behavior	2058/59	2059/60	2060/61	2061/62	2062/2063
collection expenses	Variable	11422	11985	11277	11323	11447.08
Processing expenses	Variable	2734.1	2713.1	2338.4	3463.3	2841.71
Selling Expenses	Variable	386.33	409.05	393.03	410.93	426.81
Sub Total (A)		14542	15107	14008	15197	14715.6
Administrative expenses	Fixed	830.67	799.99	611.31	766.92	735.29
Gratuity Expenses	Fixed	54.27	53.24	174.5	353.1	537.53
Deprecation Expenses	Fixed	300.02	294.29	299.94	294.06	317.18
Interest Expenses	Fixed	116.34	115.84	43.19	45.22	46.63
Sub Total (B)		1301.3	1263.4	1128.9	1459.3	1636.63
Grand Total	Semi Variable Cost	15843	16370	15137	16657	16352.23

The collection, processing and selling expenses are classified as variable cost because these costs change proportionately with sales and production volume. Similarly administrative, gratuity, depreciation and interest costs are classified as fixed costs as they are period cost and remains constant whatever be the volume of production and sales.

Fig 4.4

Cost Variability

For Fiscal year 2058-59 to 2062-63



The variable cost occupied the major share in the total expenses with comparison to fixed cost. Thus if DDC really wants to reduce its expenses, it has to reduce by reduce fixed cost.

It is also necessary to analyze the proportion of variable cost and fixed cost on the basis of total cost and sales through out the fiscal year 2058-59 to 2062-63.

Table 4.8

Percentage of Variable and fixed cost of Total cost and sale

For Fiscal year 2058-59 to 2062-63

In Rs 00000

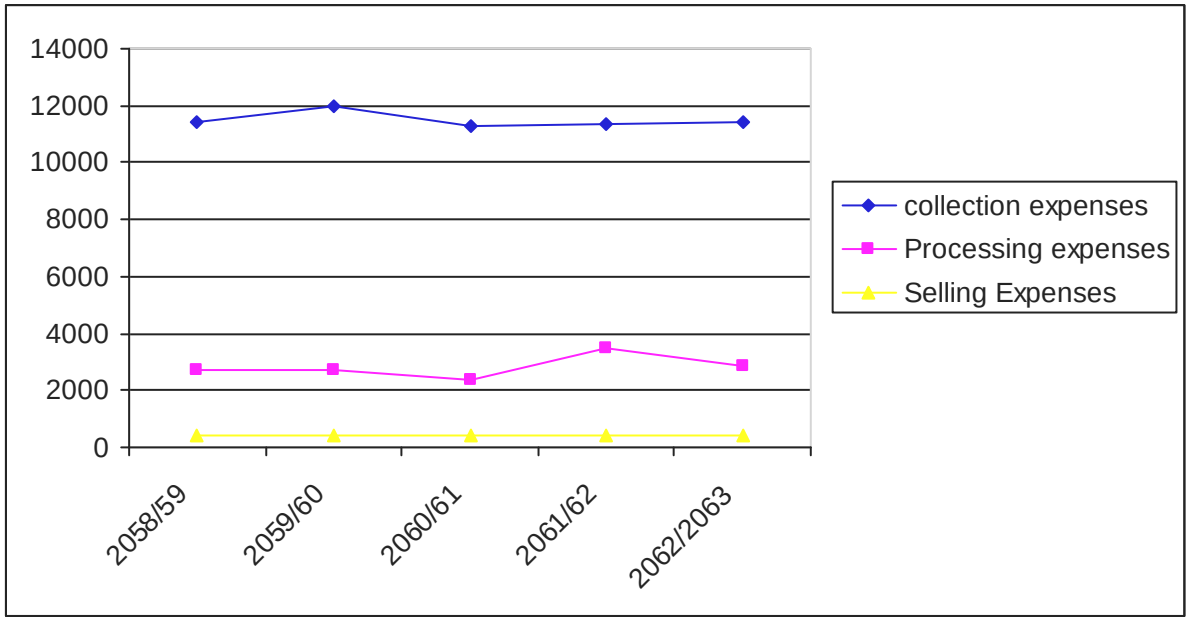
Fiscal Year	Variable Cost (RS.)	% Of TC	% of Sales	Fixed Cost(Rs.)	% of TC	% of Sales
2058-59	**14542.01**	**91.79**	**93.93**	**1301.30**	**8.21**	**8.40**
2059-60	**15107.00**	**92.28**	**94.66**	**1263.36**	**7.72**	**7.92**
2060-61	**14007.94**	**92.54**	**91.21**	**1128.94**	**7.46**	**7.35**
2061-62	**15197.35**	**91.24**	**95.60**	**1459.30**	**8.76**	**9.50**
2062-63	**14715.60**	**89.99**	**95.78**	**1636.63**	**10.01**	**10.30**

The table 4.8 showed that the coverage of variable cost was higher than fixed cost. The diagrammatical presentation of collection, processing and selling expenses showed that variable cost was higher than fixed cost.

Fig 4.5

Trend of Variable costs

For Fiscal year 2058-59 to 2062-63



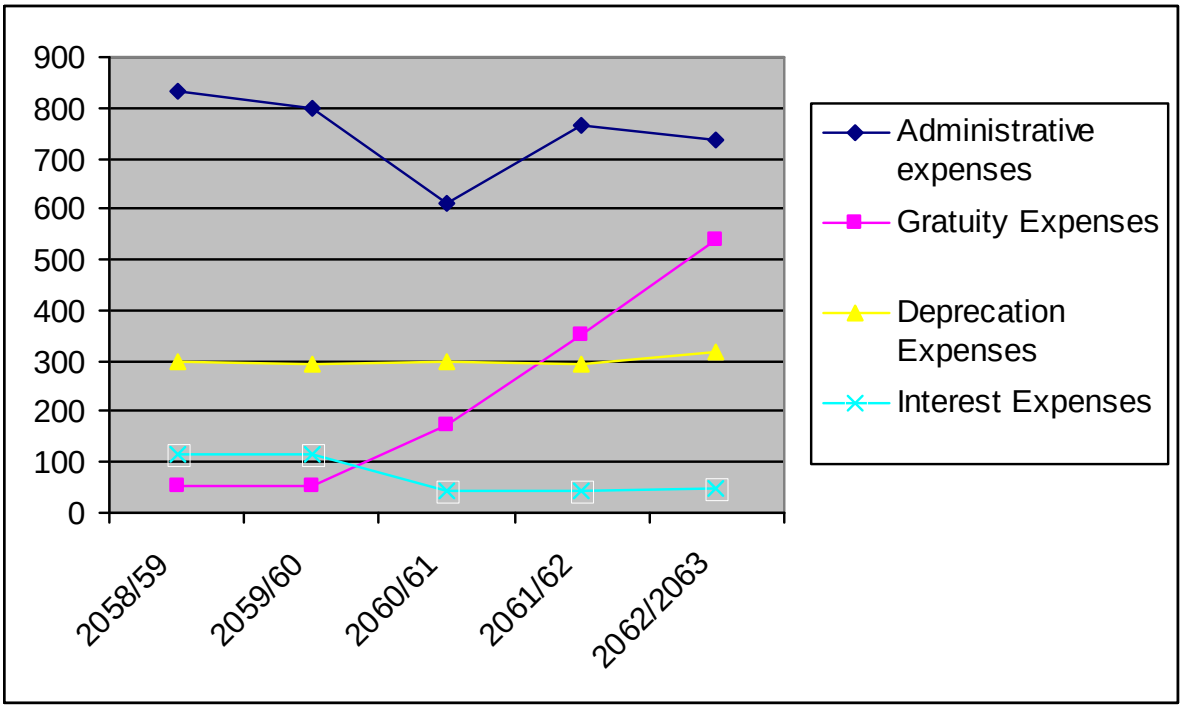
The figure 4.4 showed that the collection expenses was the largest expense in variable cost category where as selling expenses was the least variable cost.

Similarly the trend of fixed cost of DDC during the study period is presented in figure 4.5

Fig 4.6

Trends of Fixed Cost

For Fiscal year 2058-59 to 2062-63



The above graph showed that the trend of different expenses under fixed cost. The figure showed that the administrative cost was the highest in fixed cost category for the entire study period. Similarly gratuity expense was rising. And depreciation and interest expenses were consistent but interest expense was decreasing.

4.5 Inventory Consideration of DDC

In case of DDC we discuss only the finished goods inventory. Due to perish ability of products i.e.milk, there is very lower quantity to be stored. The products of DDC such as milk, yogurt, cream etc cannot be stored for along time so that the DDC should keep small level of finished goods inventories.

Table 4.9

Total Inventory

For Fiscal year 2058-59 to 2062-63

In Rs

Fiscal years	Opening Inventory	Closing Inventory	Change in Inventory %
2058-59	**5827586.31**	**62062979.21**	**964.9860149**
2059-60	**62062979.21**	**25861551.25**	**-58.33014854**
2060-61	**25861551.25**	**19543348.32**	**-24.43087373**
2061-62	**19543348.32**	**41183989**	**110.7314894**
2062-63	**41183989**	**98248772.79**	**138.5606037**

The inventory of milk and milk products were fluctuating. The opening inventory was Rs 5827583.31 and closing stock was Rs 62062979.21. The excess closing inventory was due to over production and low sells of products. In the fiscal year 2059-60, the amount of opening inventory was Rs 62062979.21 and amount of closing inventory was Rs 25861551.25. Similarly in the fiscal year 2060-61, amount of opening inventory was Rs 25861551.25 where as closing inventory was Rs 19543348.32 Accordingly, in the fiscal year 2061-62, opening inventory was Rs 19543348.32 and closing stock was Rs 41183989. Finally in the fiscal year 2062-63, opening stock was Rs 41183989 where as closing stock was Rs9824877.79. Thus it showed that there was no clear cut policy for maintaining stocks. In some year there was over production and there was huge closing stock and in some year closing was less which showed inefficient inventory management.

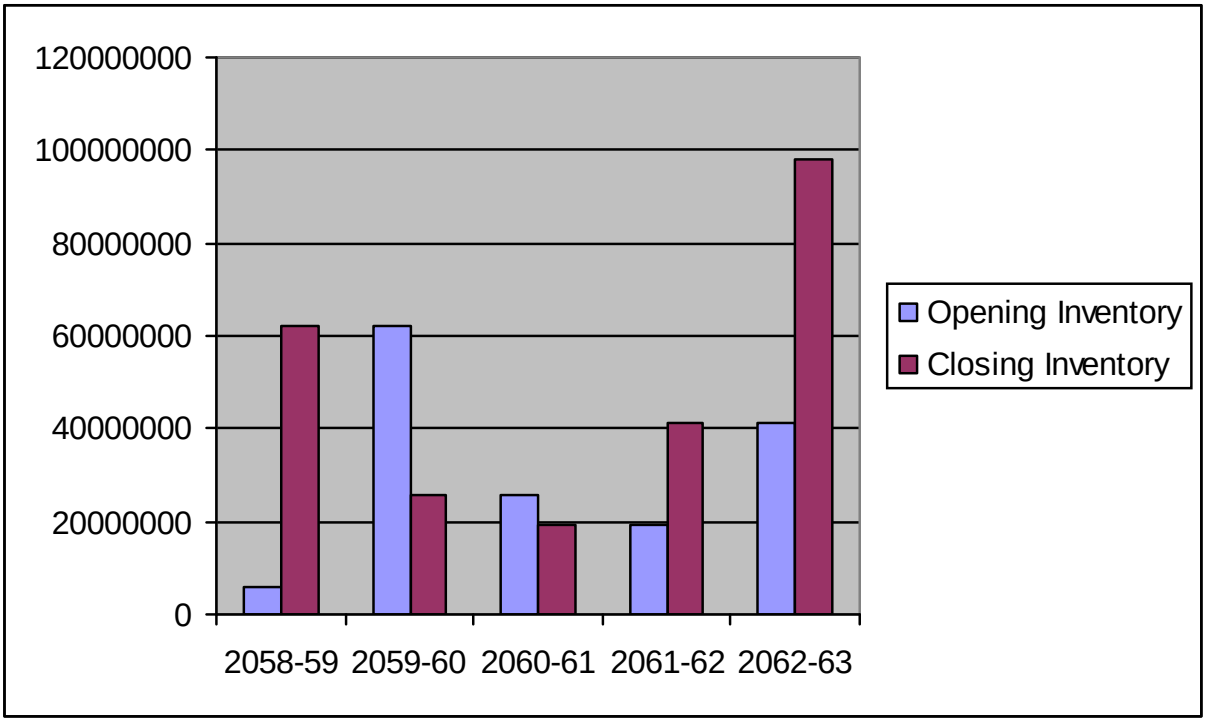
The inventory can also be shown in graph.

Fig 4.7

Total Inventory

For Fiscal year 2058-59 to 2062-63

In Rs

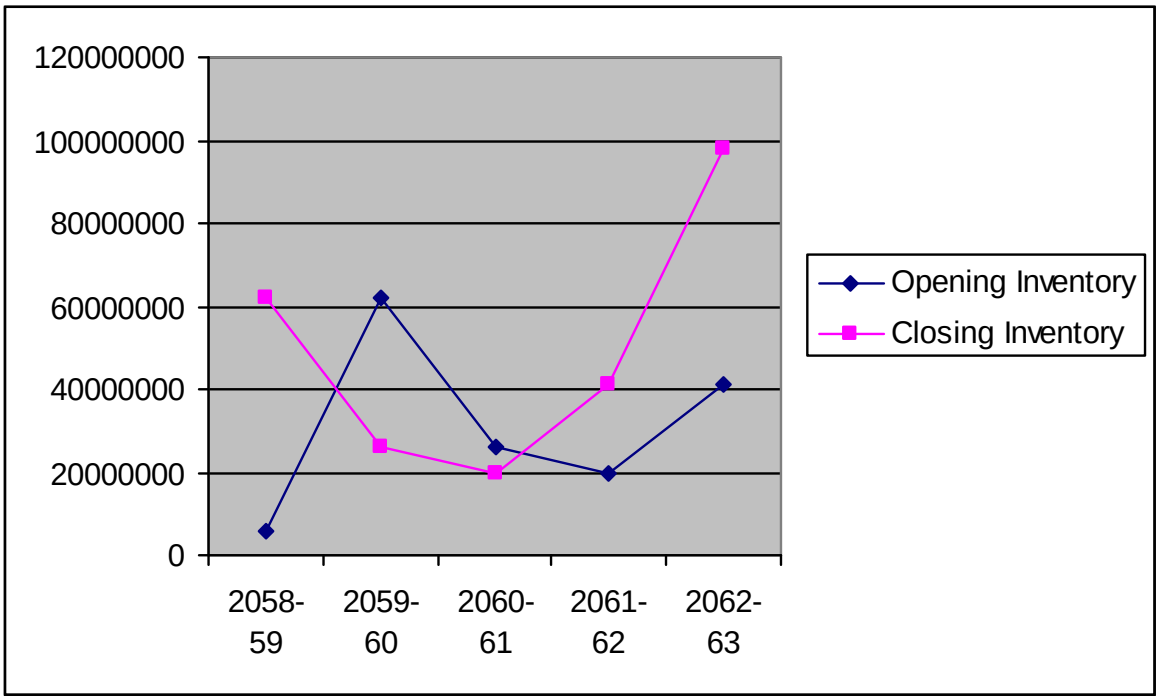


The figure 4.7 showed that both opening stock and closing stocks were inconsistent.

Fig 4.8

Total Inventory in Rs

For Fiscal year 2058-59 to 2062-63



It is clearly seen that opening stock and closing stock are not in similar trend.

4.6 Profit and loss trend of DDC

DDC was established to generate profit for its survival and growth. But DDC has not been able to generate profit in previous years and in initial year of study. DDC was unable to earn reasonable amount of profit and still not able to pay loans. The table 4.10 represents the profit and loss of DDC since fiscal year 2058-59 to 2062-63.

Table 4.10

Profit and Loss Trend

For Fiscal year 2058-59 to 2062-63

In Rs 00000

Fiscal years	Profit and loss amount	Sales revenue	% of profit on sales
2058-59	**-76132.94**	**1548239.96**	**-4.92**
2059-60	**8931.88**	**1595906.72**	**0.56**
2060-61	**14117.59**	**1535810.46**	**0.92**
2061-62	**-37915.03**	**1589663.48**	**-2.39**
2062-63	**-25541.92**	**1536340.56**	**-1.66**

The table 4.10 revealed that DDC's profit was not consistent. In the fiscal year 2058-59, there was a huge loss of 4.92% of total sales revenue. In the fiscal year 2059-60 there was small amount of profit of 0.56% of total sales. In the fiscal year 2060-61 the profit rose to 0.92% of total sales. In the fiscal year 2061-62 and 2062-63 the loss were 2.39% and 1.66% respectively. In the fiscal year 2059-60 and 2060-61 there was nominal profit. Like wise there was loss of Rs 25541920 in the fiscal year 2062-63.

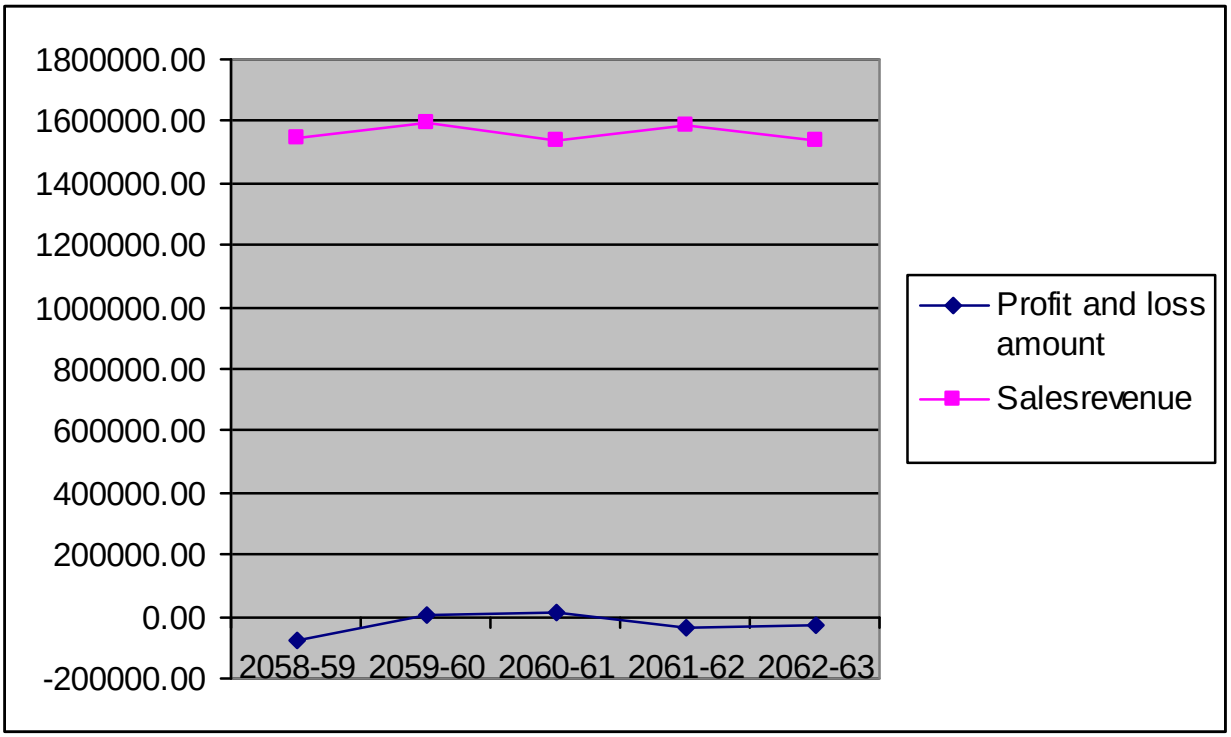
In comparison to profit amount, loss amount appears very huge in the study period. The reason of huge loss was due to excessive collection cost, interest on loan, high fixed cost and other administrative cost. The other causes of loss were inadequate plan and their implementation, lack of effective manipulation of funds and unbearable political pulls and pressure.

The trend of profit and loss can be presented in simple below figure also.

Fig 4.9

Profit and Loss Trend

For Fiscal year 2058-59 to 2062-63



The least square method can be used to analyze the trend of profit and loss and to estimate the possible future profit or loss as dependent factor of year. Considering the time factor as independent and profit or loss as dependent factor upon time, it shows relationship between year and profit.

Let the straight line be Yc = a + bx

Where Y = profit or loss

X = year

Table 4.11

Fitting straight line trend by least squares Net Profit

Fiscal year	Actual profit in Rs 000(Y)	x=X-2060-61	X2	xy
2058-59	**-76132.94**	-2	4	152266
2059-60	**8931.88**	-1	1	-8932
2060-61	**14117.59**	0	0	0
2061-62	**-37915.03**	2	4	-75830
2062-63	**-25541.92**	1	1	-25542
	∑Y=-116540.42	**∑x=**0	**∑x2=**10	**∑xy=**41962

Since **∑x=o,** then

a=∑Y/n = -116540.42/5 = -23308.084

b= ∑xY/n = 41962/5 = 8392.4

Now substituting value of a and b in the above equation

We have Yc = -23308.084+8392.4x

For the estimation of profit for fiscal year 2063-64, we have a=3

Yc= -23308.084+8392.4X 3

Yc = Rs 1869.116thousand

The estimated profit for the fiscal year 2063-64 will be Rs 1869.116 thousand if the past profit trend remains continue. With the help of least square method it can be said that the trend of profit will be on increasing trend.

Similarly to find out the expected profit for 2065-66, we have x=5

Yc = -23308.084+8392.4 X 5

Yc = 18653.916 thousands

The estimated profit for the fiscal year 2065-66 will be Rs 18653.916 thousand if the past profit trend remains continue.

4.8 Comparative Income statement of DDC

Table 4.12

Comparative Income statement of DDC

For Fiscal year 2058-59 to 2062-63

In Rs

			Fiscal Years		
Particulars	**2058-59**	**2059-60**	**2060-61**	**2061-62**	**2062-63**
Incomes					
Sales Revenue	**1548239961**	**1595906712**	**1535810462**	**1589663476**	**1536340564**
Sundry Income	**11107992**	**13550585**	**11545735**	**13141374**	**16939055**
Total Income	**1559347953**	**1609457297**	**1547356197**	**1602804850**	**1553279619**
Expenditures					
Collection Expenses	**1142154397**	**1198481864**	**1127653155**	**1132317996**	**1144708429**
Processing Expenses	**273413948**	**271312817**	**233845039**	**346325345**	**284171570**
Selling expenses	**3863328**	**40905164**	**39302977**	**41093440**	**42681441**
Administrative Charge	**83006726**	**79998862**	**61131047**	**76692653**	**73529349**
Gratuity Expenses	**5426662**	**5324356**	**17450023**	**3531055**	**53753234**
Depreciation	**30002416**	**29428739**	**29993612**	**29406299**	**31778505**
Interest Adjustments	**11633866**	**11583888**	**4319401**	**4522112**	**4663760**
Total Expenses	**1573417918**	**1626356977**	**1513695254**	**1633888900**	**1635286288**
Inventory Expenses	**62262979**	**-25861551**	**19543348**	**4004480**	**-56784783**
Net Expenses	**1635680897**	**1600495426**	**1533238602**	**1637893380**	**1578501505**
Net Profit/loss	**-76132944**	**8931871**	**14117595**	**-37915032**	**-25541921**

The table 4.12 showed the net profit/ Loss for the 5 fiscal years study period after deducting other expenses. This statement showed that there was loss in the fiscal year 2058-59. In the fiscal year 2059-60 and 2060-61 there were profit of 8931871 and 14117595. But again in fiscal year 2061-62 and 2062-63 there was loss of 37915032 and 25541921 respectively.

4.9 Contribution Margin of DDC

Table 4.13

Contribution Margin of DDC

For Fiscal year 2058-59 to 2062-63 in Rs 00000

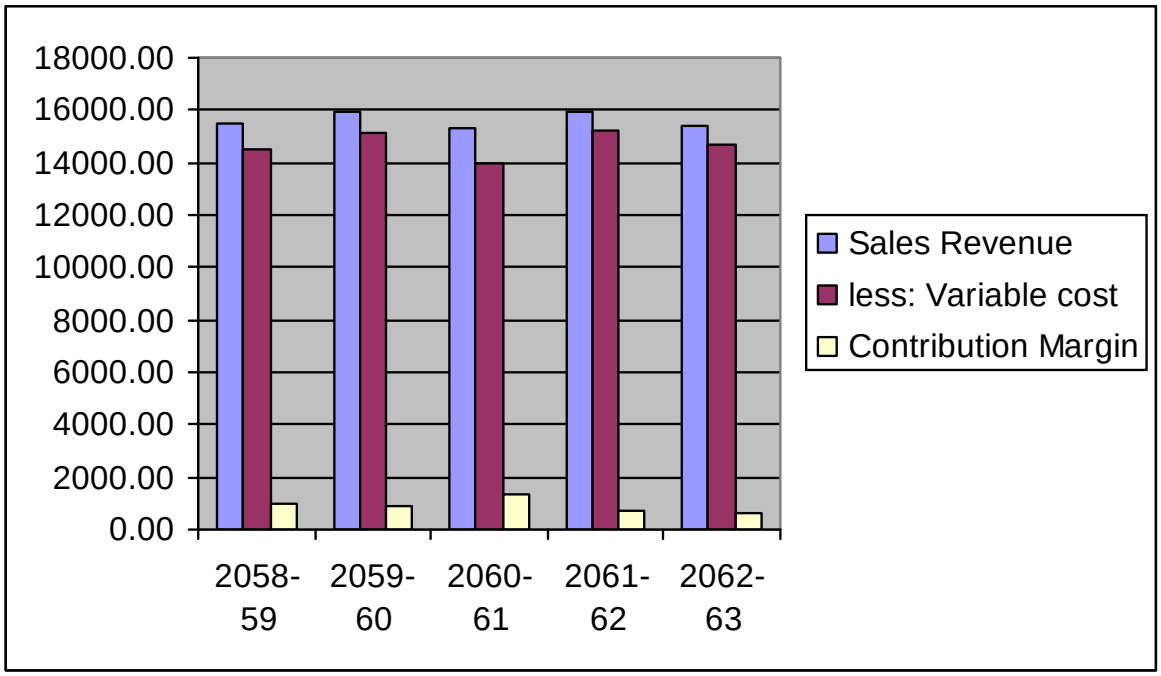
			Fiscal Years		
Particulars	**2058-59**	**2059-60**	**2060-61**	**2061-62**	**2062-63**
Incomes					
Sales Revenue	**15482.40**	**15959.07**	**15358.10**	**15896.63**	**15363.41**
less: Variable cost	**14542**	**15107**	**14008**	**15197**	**14715**
Contribution Margin	**940.40**	**852.07**	**1350.10**	**699.63**	**648.41**
CM % OF Sales Revenue	**6.07%**	**5.34%**	**8.79%**	**4.40%**	**4.22%**

The sales revenue and variable cost were very closer. The contribution margin was high in the fiscal year 2060-61 amounting 135010000.A very less gap between sales revenue and variable cost was revealed by the following graph.

Figure 4.10

Contribution Margin of DDC

For Fiscal year 2058-59 to 2062-63



4.10 Variable cost to Total Sales Ratio

The variable cost was 93.93 % in the fiscal year 2058-59 where as this raised to 94.66% in the fiscal year 2059-60. In the fiscal year 2060-61, this decreased to 91.21%. Similarly in the fiscal year 2061-62 and 2062-63 this ratio increased to 95.60% and 95.78% respectively.

Table 4.14

Variable cost to Total Sales Ratio

For Fiscal year 2058-59 to 2062-63

In Rs 00000

	Variable Cost	sales Revenue	VC to TR Ratio
2058-59	14542.00	15482.40	93.93
2059-60	15107.00	15959.07	94.66
2060-61	14008.00	15358.10	91.21
2061-62	15197.00	15896.63	95.60
2062-63	14715.00	15363.41	95.78

Table 4.15

Statistics of Variable cost and Total Sales

For Fiscal year 2058-59 to 2062-63

Descriptive Statistics **in Rs 00000**

	Mean	Std. Deviation	N
VARIABLE COST	14713.80	478.476	5
SALES REVENUE	15611.9220	293.48345	5

Correlations

		VARIABLE COST	SALES REVENUE
VARIABLE COST	Pearson Correlation	1	.846
	Sig. (2-tailed)	.	.071
	N	5	5
SALES REVENUE	Pearson Correlation	.846	1
	Sig. (2-tailed)	.071	.
	N	5	5

Source: Annex 2

The mean variable cost was Rs 14713.80 and mean sales revenue was Rs 15611.922. Similarly standard deviation of variable cost for 5 year was 478.476 where as s.d of sales revenue was 293.48.

Another statistical tools correlation was used to analyze the degree of relationship between the Variable cost and total sales. To find out Karl Pearson's correlation showed the value of correlation coefficient lies between +1 and -1. The value is .846 which showed there is positive relationship between Variable costs and total sales. This means the sales should increase with variable cost and vice versa.

4.11 Total Expenses to Sales revenue ratio

Total expenses to sales revenue ratio show the portion of total expenses against total sales. The table 4.15 showed the ratios of total expenses and total sales. The total expenses exceed total sales except in fiscal year 2060-61.

Table 4.16
Total expenses to Total Sales Ratio
For Fiscal year 2058-59 to 2062-63

In Rs 00000

Year	Total Expenses	sales Revenue	Total Expenses to Sales revenue
2058-59	15843.31	15482.40	102.33
2059-60	16370.36	15959.07	102.58
2060-61	15136.88	15358.10	98.56
2061-62	16656.65	15896.63	104.78
2062-63	16352.23	15363.41	106.44

Table 4.17
Statistics of Total Expenses and Total Sales
For Fiscal year 2058-59 to 2062-63

Descriptive Statistics

in Rs 00000

	Mean	Std. Deviation	N
TOTAL EXPENSES	16071.89	599.189	5
TOTAL SALES	15611.9220	293.48345	5

Correlations

		Total expenses	TOTAL sales
TOTAL EXPENSES	Pearson Correlation	1	.664
	Sig. (2-tailed)	.	.221
	N	5	5
TOTAL SALES	Pearson Correlation	.664	1
	Sig. (2-tailed)	.221	.
	N	5	5

Source: Annex 3

The table 4.15 showed the statistics of total expenses and total sales. Mean of total expenses was 16071.89 where as mean of total sales were 15611.922. Similarly standard deviation of total expenses was 599.189 compared to total sales standard deviation 293.48.

Another statistical tools correlation is used to analyze the degree of relationship between the Total expenses and total sales. Karl Pearson's correlation lies between +1 and -1. The above table 4.15 shows the value of Karl Pearson's correlation was .664 which shows there was positive relationship between total expenses and total sales. This means the sales should increase as the total expenses and vice versa.

4.12 Findings

The major findings of this research study based on the analysis of available data are pointed out as following.

- DDC practiced only short term planning rather than long term planning. The time covered was only one year.
- The company's sales trend is increasing but not satisfactory as growth was fluctuating.

- The company's variable cost covers high proportion than fixed cost in total cost amount which contribute lower contribution margin.
- In DDC there was no any plan to reduce cost. There was lack of effective cost control techniques used.
- The profit trend was DDC is poor. As compared to profit, the amount of loss is very high.
- DDC has no detailed and systematic expenses plan. The fixed, variable and semi variable expenses plans are necessary elements of the profit planning control as well as CVP analysis.
- In DDC, there was no effective inventory policy. The inventory management, raw materials handling and controlling system are not effective.
- DDC does not apply effective and appropriate sales forecasting techniques.
- DDC has not practiced segregating semi variable cost into fixed and variable cost.
- It seemed that budgeted sales are higher than actual sales. There is positive correlation coefficient for budgeted and actual sales.
- DDC does not have scientific pricing policy.
- There was no separate planning department and there were no planning experts.
- There was inadequate evaluation of relevant internal and external variables.
- DDC was not able to adopt new changes and technologies for improvement of product quality.
- DDC does not assess its weakness and strength to support planned activities.

Chapter v

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Among Nepalese manufacturing enterprises, DDC has been taken as the representative enterprises. DDC was established in Shrawan 1, 2026 B.S. under company act 2021 B.S in the public sector as an understanding of HMG of Nepal and engaged in serving Nepal through collecting milk and providing milk and milk products to all national level.

Every organization has limited resources. To utilize the limited resources in a better way, different tools and techniques have been developed. Among the various tools and techniques, cost-volume-profit analysis has proved beneficial in different aspects of managerial activities. The main objective of cost-volume-profit analysis is to help managers in over all managerial activities by providing information and helping in planning, controlling and decision-making. This acts as a strategic business partner in support of management role in decision-making.

Cost-volume-profit analysis is a supplementary tool of planning. It tells many things about the relationship between the business variables. Total variable costs are proportionate to the sales volume; whereas he total fixed costs remain unchanged within the relevant range of the output levels. Break even analysis is part of cost-volume-profit analysis which tells us about the level of sales at which revenues equal expenses and net income is zero. More precisely, it is called the break-even point. Cost-volume-profit analysis is sometimes referred to simply as break-even analysis which may be misleading because break-even analysis is just one part of the entire cost-volume-profit concept.

Therefore, the present research study has tried to analyze and examine the present practice of cost-volume-profit analysis as a tool of profit planning and control in DDC and to identify the area where cost-volume-profit analysis can be applied to strengthen the company. It has also tried to answer the certain question stated in the statement of problem.

As per the nature of study, secondary data are used with descriptive and analytical approach. For this research study five years data from the fiscal year 2058/059 to 2062/063 has been used. The DDC defined providing data of the fiscal year 2063/64 due to incomplete of audit. Data are tabulated as per the requirement of the study.

Statistical tools like arithmetic mean, standard deviation, coefficient of variation, correlation coefficient, coefficient of determination, probable error of correlation, regression, financial tools such as ratio analysis, break-even analysis, contribution margin, margin of safety etc have been used.

Literature related to this area has been reviewed which consists of book, periodical articles, government official publications and dissertation or thesis.

This study has been organized in five main chapters consisting of introduction, review of literature, research methodology, presentation and analysis of data and summary, conclusion and recommendations.

5.2 Conclusions

This thesis main aim is to study use of CVP analysis as managerial tool in PPC of DDC. The study showed that DDC's actual achievements were always lower than the targets and the budget were not implemented effectively. There was no clear method of segregating cost. CVP relation ship was not considered while developing sales plan.

DDC lacked proper inventory policy. This led inconsistent inventory in DDC. DDC is unable to earn reasonable amount of profit. But least square straight line sales trend of the DDC showed the possible future actual sales will have an increasing trend. Therefore it shows that DDC can earn profit in future.

Thus Researcher can conclude that DDC is not in a good position in terms of profit. It can increase its profit volume if sales plan are properly made and target are achieved as well

as should focus on practice of segregating cost which help in minimizing the fixed cost and should make proper inventory policy to optimize inventory cost.

5.3 Recommendations

On the basis of above analysis, findings and conclusions of the present study on DDC, it needs some suggestions to improve the application of cost-volume0profit analysis as a managerial tool of profit planning and control for its better operation in the future. For better utilization of the limited resources and achieving goal through cutthroat competition, application of cost-volume-profit analysis can be of great help. Thus the following recommendations based on the findings of the research study are:

- DDC should develop realistic strategy (long term) plans as well as tactical (short term) plans regarding sales, production and expenses.
- Sales budget or plan serves as the key note for overall profit plan to be run effectively. All other budget depends upon sales budget. Therefore sales budget should be prepared on the realistic ground.
- Classification of expenses items as variable and fixed must be made within specific framework.
- To implement CVP analysis effectively, the concept of CVP analysis should be understood by all levels of management.
- There was no effective inventory policy, so DDC is recommended to use the tools effectively for efficient inventory management.
- DDC should consider about the product line to improve its profits. Market research on demand, supply and pricing of milk and dairy products should be carried out. This will help to identify and drop loss oriented product.
- To generate adequate sales and profit, DDC should emphasize on efficient utilization of resources.
- CVP relation ship should be considered while formulating the profit plan.
- DDC should try to control fixed cost to increase profit.
- DDC should think about the ways to increase profit to sustain in long run.

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Annex 1 - Status for Analysis of Budgeted sales and actual sales

F.Y.	Budgeted sales (x)	Actual Sales (y)	X-mean of X = x	Y-mean of Y = y	
058/59	16470.64	15482.4	(1,026)	(130)	
059/60	16727.6	15959.07	(769)	347	
060/61	17626.7	15358.1	130	(254)	
061/62	18125.4	15896.63	629	285	
062/63	18532.9	15363.4	1,036	(249)	
	87,483	**78,060**	**0**	**0**	

Arithmetic Mean of X = ∑X/N = 87483/5 = 17497
Whereas, N = No. of Fiscal year

Standard Deviation of X = √(∑x2/N) = √(87483/5) = 885

Coefficient of Variation (CV) of X = Standard Deviation of X / Mean of X
=885/17497
0.05055922

Karl Pearson's Coefficient

	r =	-0.2365
Probable Error (PE)	=	0.5141
6PE	=	3.0844

Note : Karl Pearson's Coefficient 'r', Probable Error (PE) and 6PE is calculated using computer software Mic

Mean x	17,497
Mean y	15,612
SD of x	885
SD of y	293
CVx	0.05055922
Cvy	0.018798813

Annex 2 - Status for Analysis of Total Expenses and Sales revenue

F.Y.	VariableCost X	sales Revenue Y	X-mean of X = x	Y-mean of Y =
058/59	14542	15482.4	(172)	(13
059/60	15107	15959.07	393	3
060/61	14008	15358.1	(706)	(25
061/62	15197	15896.63	483	2
062/63	14715	15363.41	1	(24
	73,569	**78,060**	**0**	

Arithmetic Mean of X = ∑X/N 73569/5 = 14714
Whereas, N = No. of Fiscal year

Standard Deviation of X = √(∑x2/N) = √(915759)2/5-1) = 478

Coefficient of Variation (CV) of X = Standard Deviation of X / Mean of X
= 478/16072
0.032518889

Karl Pearson's Coefficient

	r =	0.8460
Probable Error (PE)	=	0.1548
6PE	=	0.9291

Note : Karl Pearson's Coefficient 'r', Probable Error (PE) and 6PE is calculated using computer software Mic

Mean x	14,714
Mean y	15,612
SD of x	478
SD of y	293
CVx	0.032518889
Cvy	0.018798675

Annex 3 - Status for Analysis of Total Expenses and Sales revenue

F.Y.	Total Expenses X	sales Revenue Y	X-mean of X = x	Y-mean of Y =
058/59	15843.31	15482.4	(229)	(1
059/60	16370.36	15959.07	298	
060/61	15136.88	15358.1	(935)	(2
061/62	16656.65	15896.63	585	
062/63	16352.23	15363.41	280	(2
	80,359	**78,060**	**0**	

Arithmetic Mean of X = $\sum X/N$ = 80359/5 = 16072
Whereas, N = No. of Fiscal year

Standard Deviation of X = $\sqrt{(\sum x2/N)}$ = $\sqrt{(436112/5-1)}$ = 599

Coefficient of Variation (CV) of X = Standard Deviation of X / Mean of X
= 599/16072
0.037281833

Karl Pearson's Coefficient

	r =	0.6644
Probable Error (PE)	=	0.3041
6PE	=	1.8249

Note : Karl Pearson's Coefficient 'r', Probable Error (PE) and 6PE is calculated using computer software Mic

Mean x	16,072
Mean y	15,612
SD of x	599
SD of y	293
CVx	0.037281833
Cvy	0.018798675