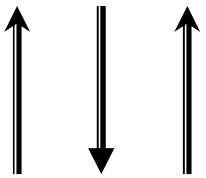
A STUDY ON BUDGETING AS A TOOL OF PROFIT PLANNING OF KATHMANDU DAIRY PRIVATE LIMITED



By:

Amit dhungel

Post Graduate Campus Biratnagar

T.U.Regd.No.: 29245-94

A Thesis Submitted to:

Office of the Dean

Faculty of Management

Tribhuvan University

In partial fulfillment of the requirements for the degree of

Masters of Business Studies (M.B.S.)

Biratnagar, Nepal

April, 2012

Recommendation

This is to certify that the thesis:

Submitted by

Amit Dhungel

Entitled

A STUDY ON BUDGETING AS A TOOL OF PROFIT PLANNING OF KATHMANDU DAIRY PRIVATE LIMITED

has been prepared as approved by this Department in the prescribed format of Faculty of Management. This thesis is forwarded for examination.

. . . . . .
Prof. Dr. Yadav Raj Koirala
Supervisor

. . . . . .
Head of Department
Prof. Dr. Khagendra Acharya

. . . . . .
Campus Chief
Dr. Harihar Bhandari

Date:

VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis presented by

Amit Dhungel

Entitled

A STUDY ON BUDGETING AS A TOOL OF PROFIT PLANNING OF KATHMANDU DAIRY PRIVATE LIMITED

and *found the thesis to be the original work of student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for*

Master's in Business Studies (M.B.S.)

VIVA-VOCE COMMITTEE

Chairperson, Research Committee _____

Member (Thesis Supervisor) _____
(Prof. Dr Yadav Raj Koirala)

Member (External Expert) _____

Date:

DECLARATION

I hereby declare that the outcome of this thesis entitled "A Study on Budgeting as a Tool of Profit Planning" submitted to office of Dean, Faculty of management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master of Business Studies (MBS) under the supervision and guidance of Prof. Dr. Yadav Raj Koirala

Amit Dhungel
Researcher
T.U. Reg. No. 29245-94
Campus Roll No. 286

Date:

ACKNOWLEDGEMENTS

This thesis is an outcome of hard work, which is designed to help the readers to have a better understanding in budgeting aspect with reference to Kathmandu Dairy Pvt. Ltd. Many respective persons have devoted their precious time and effort in course of preparing this report. We would like to take this opportunity to acknowledge all of them.

I express my profound gratitude to my respected supervisor Prof. Dr. Yadav Raj Koirala for his valuable guidance and inspection with perceptive comments, generous treatment and kind support during the preparation of this dissertation. I also extend my warm thanks to Campus Chief Dr. Harihar Bhandari and Special thanks for Prof. Dr. Khagendra Acharya, Head of the research department, Post Graduate Campus (TU), Biratnagar, granting me an opportunity to carry out this research. I am also thankful to all my colleagues.

My vote of thanks also goes to all the staff member of Kathmandu Dairy who generously provided me required information and materials.

I am especially grateful to my adorable father Kiran Kumar Dhungel & mother Indu Dhungel for their perpetual inspiration and my cherished brother Anjan and the entire family member for their valuable co-operation, encouragement and assistance.

Needless to say, I retain responsibility for any remaining errors and defect of analysis or lack of clarity in this report.

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Amit Dhungel
Biratnagar

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

A.D.	:	Anno Domini
A.M.	:	Arithmetic Mean
A/C	:	Account
B.S.	:	Bikram Sambat
BEP	:	Break Even Point
C.V.	:	Coefficient of Variation
CM	:	Contribution Margin
Co.	:	Company
CVP	:	Cost Volume Profit
DDC	:	Dairy Development Corporation
EBIT	:	Earning before Interest and Tax
ED	:	Edition
F/Y	:	Fiscal Year
FC	:	Fixed Cost
KD	:	Kathmandu Dairy
Ltd	:	Limited
P.E	:	Probable Error
P.E	:	Public Enterprise
P/L	:	Profit & Loss
P/v Ratio	:	Profit Volume Ratio
PPC	:	Profit Planning and Control
Pvt.	:	Private
Rs.	:	Rupees
SD	:	Standard Deviation
SPPU	:	Selling Price per Unit
TC	:	Total Cost
TFC	:	Total Fixed Cost
VC	:	Variable Cost

CHAPTER- I

INTRODUCTION

General Background of the Study

Industrialization is the important factor for the development of any country. Nepal is a least developed country. Economic growth and economic sector development are essential for the development of country. So, Government of Nepal has been focusing on the economic liberalization policy to grow its national economy. Nepalese government has launched many plans & programs for its economic development. But lack of proper planning as well as misuse of capital mobilization has been main cause to be undeveloped of the economy. Recently, the Nepalese government has adopted the path of economic development through privatization and liberalization policy. But on the other hand, the political situation of country is not favourable for investors and entrepreneurs. Policies have well designed but unfortunately, it has not been implemented.

Industrialization is the backbone of the developing country like Nepal for economic development. It pays vital role, which are very essential to develop overall aspects of the country. Without industrial and business enterprises, economic development of the nation is not possible.

It is well known fact that the Nepal is an agricultural country, by contrary there are few agro based industries. Here more than 80 percent of total population is engaged in agricultural sector but the return on economics growth from this sector is not satisfactory. By applying the modern tools and technology in the agriculture sector, a nation can reach at the stage of industrialization. Without enforcing the modern methods, tools and technology in farming, it is very difficult to improve the living standard of

people who are completely engaged in farming sector. Though, Nepal is an agricultural country, there are very few agro based industries. Without development of agro based industries, Nepal cannot go in the era of industrialization. Traditional cultivating systems, low productivity, lack of irrigation facility, production inconvenient and geographical structure are the main weaknesses for the development of the agriculture sector. We need to fight with these difficulties by adopting livestock occupation and establishing dairy industries.

1.1.1 An overview of Kathmandu Dairy Pvt. Ltd.

Kathmandu Dairy Pvt. Ltd (KD) is an agro-based industry in Nepal. The dairy development activities in Nepal started in Kavre districts in 2009 B.S. as an experimental basis with a small scale milk processing plant under the department of agricultural. In the year 2010, by the initiative of dairy development board, the central dairy plant was established and it started collecting, processing and marketing activities from the year 2014 B.S. Kathmandu Dairy was established in Kathmandu valley under the company act 2049 with a view to supply hygienic pasteurized milk and milk products at reasonable price to urban consumers.

Kathmandu Dairy is committed to provide the best quality product to its consumers' and its product are getting wide acceptance by general consumers day by day. For this reason it has introducing varieties of dairy products harmonizing with the changing taste of upcoming generation. Kathmandu dairy has been helping to the rural farmers by providing a regular market opportunity for their product and improving their economic condition. Kathmandu Dairy aims to be the leading Dairy and food processing industry in country. It has been successfully introducing varieties of dairy products and it is firmly committed to high quality

production of world- class standard at most reasonable price and giving consumer's services of high satisfaction,

Following are the strategies of Kathmandu Dairy to achieve its goals:

Add more value to dairy products for the more profit margins.
Extend the life of the products
Focus on investing on information technology to keep track of research and development, scheduling, accounting and customer information. Management trading partners across your supply chain and raw material intake.

A better way to reduce linkage and wastage to reduce the operation cost.

Goal of Kathmandu Dairy

The goals of Kathmandu Dairy are as follows:

Kathmandu dairy aims to be the prime dairy and food processing industry in Nepal.

We have successfully introducing varieties of dairy products harmonizing with the changing taste of upcoming generation.

We are firmly committed to high quality production of world-class standard at most reasonable price and giving consumer's services of high satisfaction.

We do our best to create conducive environment to our customers at our various outlets.

From the angle of national interest, our whole effort is found to centre around at solving the national problem of milk holiday at the service of poor milk farmers.

Focus of the study

Through KD is a private milk and milk processing company, it aims to earn some reasonable profit in the long run. This is so because no business undertaking can run in long run without profit, whether it is run in public or private sector. To earn a desire level of profit, every organization should plan its all activity. So, this study is completely related with the application of budgeting as a tool of profit planning in Kathmandu Dairy Pvt. Ltd. The purpose of planned performance is to ensure successful operation or to achieve the target. The target is generally expressed in terms of profit. Without planning, various activities of an organization cannot be achieved therefore, a planning should encompass over all performance of an organization. The focus of this study is on budgetary aspect of KD. This study does not attempt to analyze financial statement but as a matter of relevancy it may be called upon, this study will relate to the procedures of forming the budget, evaluation of performance with relation to budget.

Statement of the problem:-

The research work basically aims to analyze Kathmandu Dairy with respect to profit planning and control aspect. This study is designed to evaluate how different sorts of budgets are prepared and how effectively they are implemented. Like other manufacturing organization, Kathmandu Dairy is also aimed to earn certain amount of profit. Mostly success is measured in terms of profit. To earn desire level of profit, it is to be planned and managed properly. Basically each and every business organization has two types of profit plan. They are short term (tactical) profit plan and long term (strategic) profit plan. This study analyze both and includes demand forecasting, sales budget, production budget, material budget, labour budget, cash and capital expenditure budget etc. These budgets are used

for the planning of profit, their follow up procedure and they are compared with the actual achievement. Due to the lack of application of profit planning tools, they can't forecast budgeted sales to recover total cost and to achieve profit. In the above light, the study attempts to answer the following research questions:-

Is the company practicing systematic budgeting procedure for its profit planning?

What are the major difficulties faced by KD in the application of profit planning and control analysis?

What is the capacity utilization position of KD?

What is the profitability and performance of KD?

How is the risk associated with KD?

Objective of the study

In general terms, this study focuses and examines the application of profit planning and control in Kathmandu Dairy. The research and findings shall be beneficial to Kathmandu Dairy and any other institution involved in agro based industries. The recommendations and conclusion part of this report shall be the bottom line results which shall enhance the understanding and help the managers to develop strategies that best suits their future decisions regarding profit planning.

Primary objectives:-

To analyze and implement the theoretical knowledge in our real life situations and the economic environment that we have learned during the study period.

To gain practical knowledge of the profit planning activities of manufacturing company, various rules and regulations governing the manufacturing company.

Secondary objectives:-

To evaluate the application of profit planning and control in Kathmandu Dairy.

To analyze the attitude of cost consciousness, stimulates the effective use of resources and creates an environment of profit conscious throughout the organization.

To examine the situation of demand forecasting in K.D.

To reveal whether Kathmandu Dairy prepares short term as well as long term budget or not.

To compare the actual sales with target sales and find the level of achievement along with their correlation and fluctuation.

To compare the actual production with target and find the level of achievement along with their correlation and fluctuation.

To analyze other different budgeting activities.

To know the capacity utilization and performance evaluation.

Importance of the study:-

Every research work must be a systematic and formularized approach for stating and communicating its purpose. There should be meaningful interpretation that will be useful to some concerned person. The study would be very useful for entrepreneurs, decision makers, researchers and

the managers because it deals with the application of PPC analysis of KD. Its useful will be more to the management of KD, its employees as well as consumers of KD. Moreover, this study will helps to analyze the past success or failure aspect and may be useful to create effective profit planning. This study also gives a guideline to formulate and implement the modern tools of profit planning and control and helps to provide available information and its weaknesses to the shareholders of KD as well.

Limitation of the study:-

Due to various reasons this research work is not able to study the whole Nepalese Dairy industries in detail. For the sake of ease this tries to study its subject matter by concentrating on some important variables and ignoring others. That is why this research is also not free from limitations. The major limitation of the study is presented below:

This study is limited from the point of view to the submission in partial fulfilment of the requirement for the Master in Business Studies (MBS). So, it is limited due to the time constraint, purpose and other necessities. Therefore, it is not a comprehensive study due to certain chapters.

The core of this study is based on the secondary sources of information. Hence any incorrectness in the key information from the secondary sources might affect the accuracy of the outcome of the study.

The study has been designed (to concentrate on Kathmandu Dairy, which is a part of total Dairy industries of Nepal). So the conclusion cannot be generalized on the total dairy industries.

There might be various techniques and methods to perform the study on profit planning, but the study is focused only on the budgetary aspect, correlation and regression analysis, and some cost volume profit analysis.

Research Design:-

Research design describes the methods and processes applied in the entire aspect of the study. Research design provides the methodology followed to achieve the objectives stated in this research work. This study covers quantitative methodology in a greater extent and also uses the descriptive part based on both technical aspect and logical aspect. This research tries to perform a well-designed quantitative research in a very clear and direct way using both financial and statistical tools as required by the study.

Organization of the study:-

The whole study is divided into five different chapters. Each chapter includes following subject.

CHAPTER I:
[Introduction]

The introduction chapter includes background, a brief introduction to Kathmandu Dairy, focus of the study, statement of problem, objective of the study, importance of the study, and limitation of the study and organization of the study.

CHAPTER II:
[Review of Literature]

The second chapter focuses on review of literature. It contains the conceptual framework and past research literature and research gap.

CHAPTER III:
[Research Methodology]

The research methodology chapter includes research design, population and sample, sampling procedure, sources of data, data collection techniques, data presentation and analysis and statistical tools.

CHAPTER IV:
[Presentation and Analysis of Data]

Data presentation and analysis chapter deals the actual study of the available data from Kathmandu Dairy Pvt. Ltd. by using the different statistical and mathematical tools and techniques followed by methodology.

CHAPTER V:
[Summary, Conclusion and Recommendation]

Summary, conclusion and recommendation are included in this chapter five.

CHAPTER- 2
REVIEW OF LITERATURE

Introduction

Review of literature is done by researcher after the selection of topic to develop concepts and ideas about the selected topic by reviewing all the relevant materials. It deals with a literature survey of the existing volumes of similar or related subjects. Generally, review of literature means reviewing research studies or other relevant propositions in the related area of the study so that all the past studies, their conclusions and deficiencies may be known and further research can be conducted. It is an integral and mandatory process in research works.

A review of literature is a classification and evaluation of what accredited scholars and researchers have written on a topic, organized according to a guiding concept such as a research objective, thesis or the issue to be addressed. Scholarly journals always cite their sources in the form of footnotes or bibliographies. Authors are scholars in the field or someone who has done research in the field. Scholarly language is that of the discipline covered and assumes some scholarly background on the part of the reader. The main purpose of the review of literature is to report on original research or experimentation in order to make such information available to the rest of the scholarly world. In another word, a literature review is an account of what has been published on a topic by accredited scholars and researchers. Literature review thoroughly summarizes the recognized facts and information in academic literature about a given subject.

Review of literature is basically stocktaking of available literature in the field of research. The textual contains would help the researcher to support the area of research in order to explore the relevant and true facts for the reporting purpose. While conducting the research, previous studies cannot be ignored, as that information would help to check the chance of duplication in the present study. Thus, one can find what research studies have been conducted and what remains to go with.

General concept of profit

Profit does not happen by chance, it is to be planned. Profit is the ultimate goal of every business house. They involve in business for making profit. Profit cannot 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.

Generally success is measured in terms of profit. To earn desire level of profit, it is to be planned and managed. There is no unique definition of profit. Profit has been interpreted in various ways. "An economist will say that profit is the reward of entrepreneurship for risk taking. A labour leader might say that it is a measure how efficiently labour has produced and that provides a base for negotiation a wages increase. An investor will view it as a gauge of return on his/her money. An internal revenue agent might regard, it is a base for determining income taxes. The accountant will define it simply as the excess of firm's revenue over the expenditure of producing goods & services in a given fiscal period." *(Richard M. Lynch & Robert W. Willimson. Third Edition; p 99)*

Several economists have their different views in respect of the term profit. According to F.B. Hawley, profit is the reward for risk taking in business. Schumpeter expressed that an entrepreneur earns profit as a reward for his introducing innovation. J.M. Keynes held the view that profit

resulted from favourable movements of general price level. Robinson and Chamberlain opined that the greater the degree of monopoly power, the profit made by the entrepreneur *(Kapur, 1993, p115).*

In marketing, profit is the excess of selling price over all the cost and expenses incurred in making a sale. In finance, profit is the reward to the entrepreneur for the risks assumed by him or her in the establishment, operation and management of a given enterprise or undertaking *(Jerry, 1983, p396).*

"Economics theories on profit may be put in three broad groups. The first looks upon profit as the reward for bearing risks and uncertainties. The second view, profit as a consequence of frictions of imperfection in the competitive adjustment of the economic to dynamic changes. The third states, profit as the rewards for successful innovation." *(joel Dean, 1977, p6).* "Profit is the reward for bearing risks of enterprises, the risk of venturing in business, the risk of owning something in hope of selling it later." *(John H. Myers, p250).*

Risk theory assumes in the concept that higher the risk higher the profit. Actually above mentioned theories state only a part of story. Economists say that profit is the reward for discharging all the above three function, namely: risk bearing, market imperfection and innovation. "The efficiency of management is reflected upon the volume of profit. It is a signal for the allocation of resources and yardstick for judging managerial efficiency" *(P.V. Kulkarni 1985, p245)*

Concept of planning

Planning is the risk that is performed in advance of taking actions. It is actually anticipatory decisions making even though not all forms of decision making are planning" *(R.L. Ackoff, 1970).* "Better planning is one of the frontiers of better management". In the same way "planning cannot, of course,

guarantee profit in all circumstances, but it can provide safeguard" *(Mac-Alpine 1976:1)*

Planning is deciding in advance who will do what a certain time and how it is to be achieved. In order to achieve anything of importance it is necessary to look ahead and plan. It focuses on making thing happen. It is the first management function. Planning involves the determination of objectives based on intelligent forecasting and development of prosperity of any organization in a competitive and ever-changing environment. Planning is essential to accomplish goals. It reduces uncertainty and provides direction to the employees by determining the course of action in advance *(Pandey I.M; 2003:238)*

Planning is the process of developing enterprises objectives and selecting a future course of action to accomplish them. It includes;

Establishing enterprises objectives

Developing premises about the environment in which they are to be accomplished

Selecting a course of action for accomplishing the objectives

Initiating activities necessary to translate plans into action

Current re-planning to correct current deficiencies. *(Welsch G.A., Hilton, R.W. & Gordon,: 1992,:3)*

Forecasting and Planning

Although some intellectuals are used forecasting and planning synonymously, they have distinctly different purposes. A forecast is not a plan; rather it is a statement or a quantified prediction of future state about a particular subject based on one or more explicit assumptions. A forecast

should always state the assumptions upon which it is based and it should be viewed as only one input for the development of planning. A forecast is a prediction of future events, condition or situations. What will happen in the near future is assumed by analyzing the present and past situation is called forecasting. In contrast, a planning incorporates the management decisions that are based on forecast, other inputs and management judgments. Planning includes an intended program for future action and desired goals.

Planning can be performed under the condition of certainty, uncertainty and ignorance about the future. At the time uncertainty of future events forecasting provides the reasonable step to be taken from hazards. When certainty exists, forecasting does not require more effort since prediction about the future is tribal. In some entity the major purposes of forecasting is to reduce uncertainty and minimize ignorance. Thus it can be said that all planning are forecasting but all forecasting are not planning.

"Forecasting is a basis and integral to good planning that it would not be an exaggeration to say that the success of planning depends in large part upon the validity of the forecast. All forecast contain some degree of uncertainty and therefore an element of risk. The best that can be done is to made discriminating use of available forecasting technique allowed for the risk factor involved and planned accordingly. Modern scientific management has developed sophisticated forecasting techniques which effectively minimize the risk factors." *(William L. Dejon,: 61)*

Profit Planning and Control

Profit planning and control is an important approach and integral part of management. It is a systematic approach that facilitates effective management. Profit planning is merely a tool of management, not an end of management or substitute of management. The profit planning and

control can be defined as process or technique of management that enhances the competency of management.

Some of the definition regarding profit planning and control are;

Comprehensive profit planning and control is a systematic and formalizes approach for accomplishing the planning, co-ordination and control responsibilities of management. (Glenn A. Welsch)

"The concept of a comprehensive budget covers its use in planning, organizing and controlling all the financial and operating activities of the firm in the forth coming period." (R.M. Lynch & R.W. Williamson)

"A profit plan or budget is the formal expression of the enterprises plans and objectives stated in financial terms for a special future period of time." (I.M. Panday)

Comprehensive profit planning and control, also called budgeting, is a new term in the literature of business. Though it is a new term, it is not a new concept in management. The other terms, which can be used in the same context, are comprehensive budgeting, managerial budgeting and simply budgeting. The concept of budgeting was originally established with the function of an accountant. At its origin, the function of budgeting was assigned to the accountant. But now budgeting is given much more importance and is regarded as a way of management and in more importance sense is regarded as a basic technique of decision making and is given the name "profit planning and control programme".

"The terms of comprehensive profit planning and control is defined as a systematic and formalized approach for performing significant phases of the management planning and control function. Profit planning and control involves development and application of;

broad and long range objectives for the enterprises,

specification of enterprise goals,

a long range profit plan developed in broad terms,

a short range profit plan detailed by assigned responsibilities (division, department, projects),

a system of periodic performance reports detailed by assigned responsibilities,

control system and,

follows up procedures. *(Welsch G.A., Hilton, R.W. & Gordon,:1992)*

"Various functional budgets are the basic tools for proper planning of profit and control over than profit planning in fact is a managerial technique and profit plan in such a written plan, in which all aspects of business operations with respect to a definite future period are included. It is a formal statement of policy, plan, objectives and goal established by the top level management in respect of some future period. It is predetermined detailed plans of action develop and distributed as a guide to current operation and as a partial basic for the subsequent evaluation of performance. Thus we can say that profit planning is a tool which may be used by the management in planning the future course of actions and in controlling the actual performance." *(S.P. Gupta, 1992:521)*

Controlling means evaluating the firm's activities against the plan and deciding what should be done if the plan is not being followed. It is a process of ensuring that actual activities confirm to plan activities. Control helps in correction. Therefore, planning and controlling are the major functions of management *(Lynch & Williamson, 1995:112)*

PPC represents an overall plan of operations, providing guidelines to management and acting as single light for the measurement. It enables the management to correct its policy. PPC covers a definite period of time and formulates the planning decision of management. These three are the most relevant aspect of PPC approach;

PPC requires major planning decisions by management.

PPC entails pervasive management control activities.

PPC recognizes many of the critical behavioural implication through the organization.

Fundamental concept of PPC

Welsch, Hilton & Gordon has pointed out the following are the fundamental concept of profit planning & control;

Managerial process

Management involvement

Managerial commitment

Organizational adaptation

Responsibility accounting

Full & continuous communication channel

Realistic expectation

Management control & Planning process

Flexible application

Continuous use of the exception principle

Behavioural management programme

Individual and group recognition

Follow up *(Welsch G.A., Hilton, R.W. & Gordon,1992,:31-32)*

Components of PPC

According to Welsch, Hilton & Gordon, PPC is formed from different components which are discussed below;

The substantive plan

Broad objectives of the enterprise.

Specifics enterprise goals.

Enterprise strategies.

Executive management planning instructions.

The financial plan

Strategic (long range) profit plan.
Sales, cost and profit projection
Major projects and capital additions
Cash flow and financing
Personnel requirement
Tactical (short range) profit plan
Operatives plan
Planned income statement
Sales budget
Production budget
Administrative expenses budget

Selling & distribution expenses budget

Appropriation budget i.e. research & development, pollution control, promotion)

Financial position plan

Owner’s equity

Liabilities

assets

cash flow plan

variable expenses budget (fixed, variable and semi-variable expenses)

supplementary data (CVP analysis, Ratio analysis)

performance report

follow up, corrective action and re-planning reports.

Application of PPC

Welsch, Hilton & Gordon state that, some people say that comprehensive profit planning and control is applicable only to large and complex organizations. Usually it is commented that "comprehensive budgeting is a fine idea for most business, but ours is different," or "it is impossible to predict our revenue and expenses," and so on. These views are common regarding non-manufacturing enterprises- service companies, financial institutions, hospitals, certain retail business, construction companies, and real state enterprises. To the contrary, profit planning and control can be adapted to any organization (profit or non-profit, service or manufacturing, regardless of size, special circumstances, or condition). In respect to size, when operations are extensive enough to require more than one or two

supervisory personnel, there may be a need for profit planning and control applications. The smaller company certainly has different needs in this respect than a larger one. As with accounting, a single profit and control system that is appropriate for all enterprises cannot be designed. A profit planning and control system must be tailored to fit the particular enterprise, and it must be continually adapted as the enterprise and its environmental change.

Significance of PPC.

A well designed and effective profit planning and control system plays a vital role to the success and survival of a business entity. PPC provides a tool through which managerial policies and goals are periodically evaluated, tested and established as guidelines for the entire organization. PPC is a feed forward process, it makes and evaluation of the variables likely to affect future operations of the enterprise. It predicts future with reasonable precision and removes uncertainty to a great extent *(Pandey I.M., 2003,: 112).*

Other benefits and significance of comprehensive profit planning and control are as follows

PPC provides definite goals and objectives that serve as benchmarks for evaluating subsequent performance.

PPC reveals subsequent bottlenecks before they occur.

It forces the management to plan for the most economical use of labour, material and capital.

It compels and motivates management to make an early and timely study of its problems.

It pinpoints efficiency and inefficiency

It provides a valuable means of controlling income and expenditure of a business, as it is a 'plan for spending'.

It creates the feeling of co-operation and understanding between different departments of enterprises.

It tends to remove the cloud of uncertainty that exists in many firms especially among lower levels of management relative to basic policies and enterprises objectives

Develops and atmosphere of profit mindedness and cost consciousness

It reveals weaknesses, inefficiencies and deviations in the organization very promptly which can be checked immediately to achieve a desired goal.

It encourages productive competition, provides incentives to perform efficiently and gives sense of purpose to achieve individuals in organization. All these positive factors tend to higher output and increase employee's productivity.

Well organized profit planning and control programs enable the management to maintain a level of profits, which will ensure the existence of the business and the fulfilment of management responsibilities.

Principle and Purpose of Profit Planning and Control

The main principle and purpose of profit planning are as follows:

To provide a realistic estimate of income and expenses for a period and the financial position at the close of the period detailed by areas of management responsibility.

To provide a co- ordinate plans of action, which is designed to active the estimates reflected in the budget.

To provide a comparison of actual results with those budgeted and an analysis and interpretation on of deviation on by areas responsibility to indicate course of corrective action and to lead to improvement in procedures in building future plan.

To provide a guide for management decision in adjusting plans and objectives as uncontrollable conditions change.

To prove a ready basis for making forecasts during the budget period to guide management in making day-to-day division *(Welsch, 1992,:255).*

Profit Planning and Control Process;

PPC process is the most useful technique, which serve as a tool for management control. Generally PPC process is started at beginning of each budget year. The following steps are the sequential phases of the PPC process. *(Welsch G.A., Hilton, R.W. & Gordon,:1992,:73)*

Identification and evaluation of external variables.

Development of broad objectives of the enterprises.

Development of specific enterprise goals.

Specification of enterprise strategies.

Development and evaluation of project plans

Executive management planning instructions.

Development and strategic (long range) profit plan.

Development of tactical (short range) profit plan.

Implementation of profit plan.

Preparation of performance reports.

Use of follow up.

2.12. Limitation of Profit Planning and Control

Although PPC is the best sources of communication and an important tool in the hand of management, it is not free from limitation. The limitations of PPC are listed below;

PPC depends to a large degree on the accuracy with which the basic estimate will be made. It is not an exact science, its sources depends upon precision of estimates. So, PPC is based on estimates.

Comprehensive PPC must be flexible and dynamic in every means because PPC is an estimation and quantitative expression of all relevant data. So, there can be the tendency to attach some sort of rigidity.

PPC is not suitable in short period of time. It should be used continuously and should be revised or modified as per changes of situation.

PPC is merely a tool not an automatic machine. It is mostly required that each executive must feel responsibility and should make efforts to attain the budgeted goals. It does not improve itself but depends upon the efficient management and administration.

PPC is not a substitute for management. Lonely PPC does not work sufficient to ensure success and to guarantee future profit.

PPC consume more time and cost for its preparation and implementation.

2.13. Planning Perspectives

Formulation of comprehensive profit planning and control is not an easy task for management. They have faced difference types of problems. Some problems have mentioned below as indicated by Welsch, Hilton & Gordon;

Long range planning has confusion about its real nature and a tendency to pursue long range planning on an informal ad hoc basis.

Failure to distinguish between strategic (long range) planning and forecasting. Planning is fundamental managerial activity that includes specific decision about the objectives, goals and strategies of the enterprise whereas forecasting is to predict a problem outcome from given set of circumstance for a specific period in the future.

Another common problem in partial planning is no attention is given to develop comprehensive plans that cover all factor of expected future operations.

Problem relate to the definition of long-range profit plan because some companies refer to their annual profit plan as long range planning. *(Welsch G.A., Hilton, R.W. & Gordon, :1992,: 94)*

2.14. Development of Budgeting theory

Budgeting is a system approach and an integral part of management that facilitates effective management performance. 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.

Institute of costs and work accountants, England has defined the budget as *"A financial and/or quantitative statement, prepared and approved prior to a definite period for the purpose of attaining a given objectives. It may include income expenditure and employment of capital."*

Budget is defined as "it is the detailed estimate of the cost of stated policy and the expected income to be raised profit" *(Halsall: 44).* Simply stated the process of preparing and using budget to achieve management objectives is called budgeting. More specially, a comprehensive profit planning and controlling or budgeting is a systematic formalized approach for stating and communicating the form's expectations and accomplishing the planning, co-ordination and control responsibilities of management in such a way as to maximize the use of given resources" *(pandey I.M.:246).* A budget is a quantitative expression of a plan of action and an aid to co-ordination and implementation. Budget may be formulated for the organization as a whole or for any sub unit. Budgeting includes sales, production, distribution and financial aspects of an organization. Budget programs are designed to carry out a variety of functions, planning, evaluating performance, co-coordinating activities, implementing plans, communicating, motivating and authorizing actions. Budget is written plan for the future. A firm without financial goals may find it difficult to make proper decisions. A form with specific goals in the form of a budget makes many decisions ahead of time. A budget helps a form to control its cost by setting guidelines for spending money for unneeded items. Because they know at all costs will be compared to the budget. If cost exceed the budgeted cost an explanation will be required. Frequently exceeding the budget many even grounds for dismissal. A budget helps to motivate employees to do a good job. This is particularly true when employees help in setting up the budget. "The concept of a comprehensive budget covers its use in planning, organizing and controlling all financial and operating activities of the firm in the forthcoming period" *(lynch & Williamson: 142)*

Budget is a statement of objective as well as a forecast or an estimate. Budget is a place of action of achieved, stated objective based on predetermined series of related assumption. John states that "budget in quantitative and usually financial expression of plan that is they allocate resources to activity" *(Schermerhem J.R.,: 178).* "Budget is a detail quantitative plan to guide the firms operation in the near future." *(Lynch and Williamsn: 142)*

2.14.1. Budgeting- as a tool of profit planning and control

Institute of costs and work accountants define the term comprehensive budgeting as *"The summary budget, incorporating its components functional budget, which is finally approved, adopted and employed."*

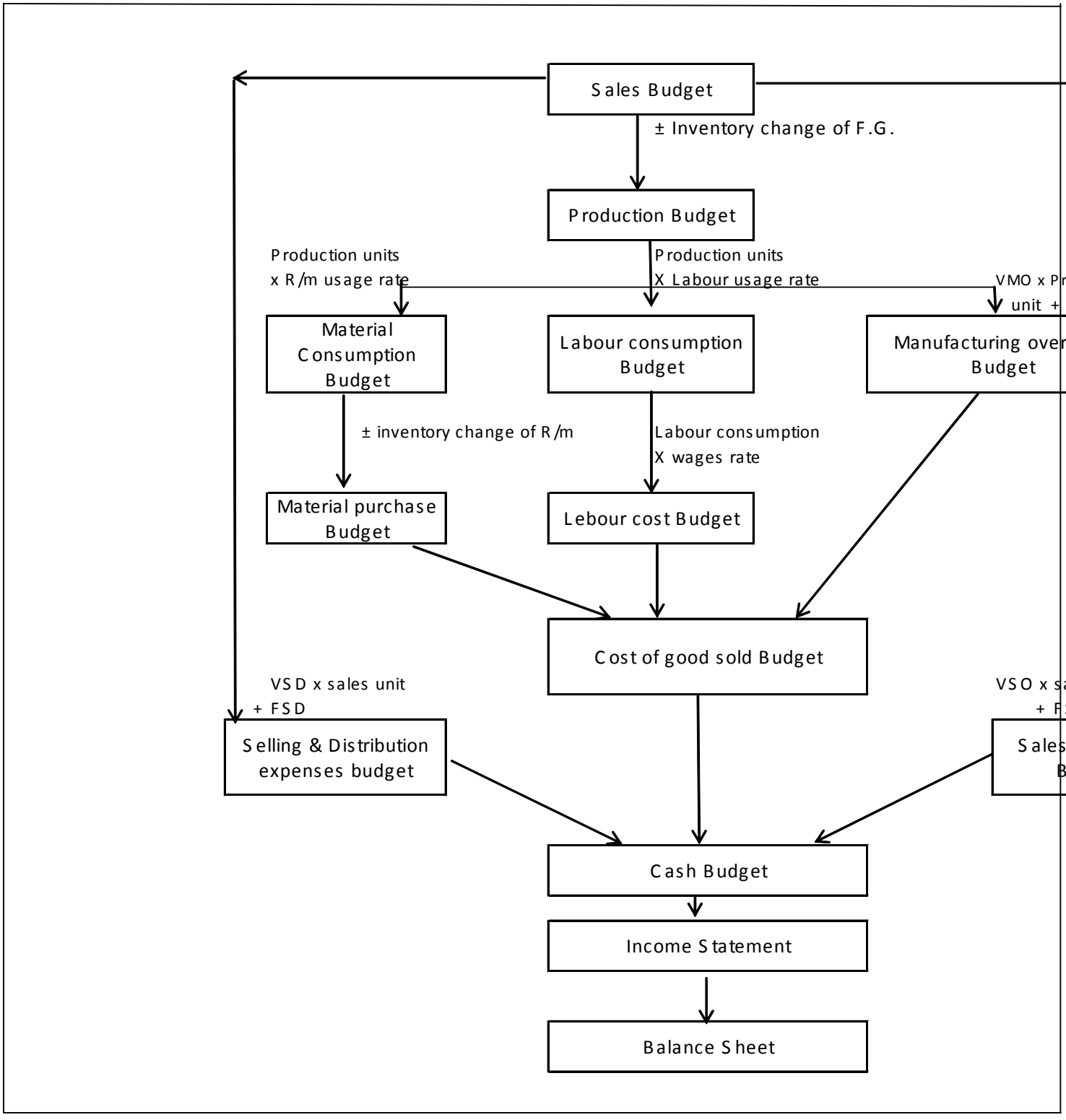
Budgeting control is a system has been defined as "It is the establishment of budgets relating the responsibilities of executives to the requirement of a policy and the continuous comparison of actual with budgeted results, either to secure by individual action the objectives of that policy or to provide a basis for its revision" *(P.V. Rathnam, 1994,: 7).* The common object of budgetary control is the formulate policies aimed at objective established after the consideration of the possible course of events in the future and to provide a mean for the constant comparison of actual progress towards this goal against the preconceived results."*(A.W. Willsmore, 1960,: 4).* "Profit does not emerge of their own accord; they have to be influenced by management. The quality by the size of the profit figures at the end of the financial year. For its own protection and in the interests of the business management must plan to make profit and the accepted basis for this is the annual budget, properly supported by long term strategic planning and operational planning" *(Mac-Alpine,: 26).* Budgets are instruments of planning and physical and financial control. It has been recognize as the accepted procedure for profit planning. A budget imposes operational standards with account ability for performance and it must be set with these objectives in

view. Therefore the aim of every company should prepare its budgets meticulously systematically and factually and as in instrument of management control." *(Mac-Alpine,: 26).*

2.14.2. Master Budget

A master budget is basically a summary budget of all the budgets or it is a total budget package for a business firm. It is a tool for coordinating all individual budgets of an organization into an acceptable effective plan. The master budget is comprised of many separate budgets or schedules that are interdependent. The following chart expels these interrelationships in a flowchart;

Figure 2.1



Where, F.G. → Finished goods

R/m → Raw material

VMO → Variable manufacturing overhead per unit

FMO → Fixed manufacturing overhead

VSD → Variable selling & distribution cost per unit

FSD → fixed selling & distribution cost

VSO → variable sales overhead per unit

FSO → Fixed sales overhead

2.14.3 Sales Budget/Plan

A sales budget is a forecast of what the company can expect to sale during a budget period. It shows the quantities of each product that the company plans to sell at the intended selling price. A sales budget is the starting point on which other budgets are also based. The sales budget is therefore the foundation of all other budgets, since all expenditure is ultimately dependent on the volume of sales. "Sales budget is one of functional or operating budget and essentially a forecast of sales to be effected in a budget period. In fact sales budget defines the quantities and values of expected sales in total as well as product wise and area wise during a definite future period. Sales budget forms the fundamental basis for other functional budgets and it is needed to coordinate the production function with expected demand for a particular product. The preparation of sales budget requires forecast of quantities to be sold and also the standard prices at which these quantities may be sold" *(Gupta S.P P-537).*

2.14.3.1 Sales planning Vs Sales forecasting

A sales forecasting has to be translated into a sales budget and here a number of factors have to be taken into consideration"(Mac-Alpine, p-66)

"Sales planning and forecasting often are confused. Although related, they have distinctly different purpose. A forecast is not a plan rather it is a statements/quantified assessment of future conditions about particular subject based on one or more explicit assumption. A forecast should view

as only on input for the development of sales plan. The management of the company may accept, modify or reject the forecast. In contrast, a sales plan incorporates management decisions that are based on the forecast, other inputs, and management judgements about such related items as sales volume, prices, sales efforts, production and financing. A sales forecast is converted to a sales plan when the management has brought to bear management judgment, planned strategies, commitments of resources and the managerial commitment to aggressive action to attain the sales goal. Sales forecasting is a technical function." *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p172).*

2.14.3.2 Strategic Vs Tactical sales plan

A strategic sales plan is the long-range sales plan of an enterprise. Usually, it is of 5 to 10 years. It is broad and general. It is usually developed by year and annual amount. It is prepared by considering future market potentials, population changes, state of economy, industry projections, company objectives and long-term strategies because they affect in such areas as pricing, development of new product line, innovation of product, expansion or distribution channel, cost pattern etc. A tactical sales plan is used for short time horizon in a company. It is to plan sales for one year detailing the plan initially by quarters. At the end of each month or quarter throughout the year, the sales plan is restudied and revised by adding a period in the future and by dropping a period just ended. Short term sales plan are usually developed in terms of physical units of sales. Short term sales plan must be structured by marketing responsibility for planning and control purpose. A short-range sales plan should include non-considerable details whereas a long range plan should be in broad terms. *(Welsch G.A., Hilton, R.W. & Gordon,:. 1992,: 173-74, summarized)*

2.14.3.3 Development of sales plan

The following process should be considered when developing the comprehensive sales plan;

Developing management guidelines for sales planning.

Prepare sales forecast

Assemble relevant data; *manufacturing capacity, sources of raw materials and supplies, availability of key people and labour force, capital availability, availability of alternatives distribution channels.*

Develop a strategic and tactical sales budget.

Consideration of alternatives.

Developing pricing policies

Developing product line considerations

Price-cost-volume considerations.

2.14.4 Production Budget/Plan.

Production budget is initial step in budgeting of manufacturing operations. The production budget is an estimation of planned quantity of goods to be manufactured during the budget period. Production budget is prepared after the sales budget. It is based on sales forecasts. The production plan involved determining the number of each product that must be manufactured to meet planned sales and maintain the planned inventory level of finished goods *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p136)."* It is prepared on the basis of sales budget, plant capacity, opening inventory of finished goods, required closing inventory of finished goods and policy of

management. Production is divided into monthly budgets for the purpose of production planning." *(Rathnam, pp 14-15)*

"The production budget specifies the planned quantity of good to be manufactured during the budget period. To develop the production budget the first step is to establish policies for inventory levels. The next step is to plan total quantity of each product that is to be manufactured during the budget period. The third step is to schedule this production by interim periods. A complete production plan should show budget data classified by a) products to be manufactured b) interim time period and c) activities of each responsibility centres in the manufacturing process".*(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p212-213)* production budget can be presented in equation.

Sales volume ± Finished goods inventory change = production requirements

2.14.4.1 General consideration in production plan.

The production plan does not aim to set the precise amounts and timing of actual production during the budget period. Rather, the production plan represents the implications of planned sales volume for planned production volume as a basis for planning the various aspects of the manufacturing function-plant capacity requirement, direct material and components requirements, timing of purchases, direct labour requirements and costs, and factory overhead.

Manufacturing executives must resolve the problems of coordinating sales, inventories and production to develop production plan so that the lowest possible overall cost results. The importance of coordination of production planning cannot be over emphasized because it affects so many decisions relating to cost, capital commitments, employees and so on. The following factor should be considered in production planning.

Total production requirements (by product) for the budget period.

Inventory policies relative to levels of finished goods and work-in-process.

Plant capacities policies such as the limits of permissible departures from a stable production level throughout the year.

Adequacy of manufacturing facilities.

Availability and types of raw material, purchased components, and labour.

Availability of capital.

The effect of the length of the processing time.

Economical lots or runs.

Timing of production throughout the budget period. *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p213-214)*

2.14.4.2 Developing the production budget/plan

The production budget is an estimate of the quantity of goods to be manufactured during the budget period. The production budget is developed in three step 1) inventory policy 2) total quantity of each product that is to be manufactured and 3) scheduling the production by interim periods. The budgeted production having been developed for the budget period, the next problem is scheduling this production by interim periods during the year. Interim production must be planned so as to;

Have sufficient goods to meet interim sales requirements

Keep interim inventory levels within reasonable limits

Manufacture the goods as economically as possible.

The company cost accountants should provide certain historical data essential in planning production quantities and costs. The director of profit planning and control should provide staff assistance when needed. When the recommended production is completed by the production department, it should be submitted to the executive committee for appraisal and to the president for tentative approval prior to its use as a basis for developing the materials, labour, and factory overheads budgets. An efficient production plan should represent optimum coordination between sales requirement, essential inventory level and stable production levels. A specimen of production budget by time can be formulated in following manner;

Table 2.1

Month	**Planned Sales**	**Desired Ending Inventory**	**Total Requirement**	**Beginning Inventory**	**Planned Production**
Ref.	1	2	1+2=3	4	3-4=5
January	xxx	xxx	xxx	xxx	xxx
February	xxx	xxx	xxx	xxx	xxx
March	xxx	xxx	xxx	xxx	xxx
……..	xxx	xxx	xxx	xxx	xxx
December	xxx	xxx	xxx	xxx	xxx
Total for the year	**xxx**	**xxx**	**xxx**	**xxx**	**xxx**

Production units can be estimated by the following formula;

Production units = sales forecast + closing stock – opening stock.

A specimen of desire ending inventory budget by time & product;

Table 2.2

Time	**Total cost**	**Product- A**			**Product- B**		
		Units	**Unit cost**	**Total cost**	**Units**	**Unit cost**	**Total cost**
Ref.	1=4+7	2	3	4=2x3	5	6	7=5x6
Opening stock Desired ending inventory 1st Quarter 2nd Quarter 3rd Quarter 4th Quarter							

2.14.4.3 Setting Inventory Policies

The management need to consider the following factor while determining inventory policies.

Quantities needed to meet sales requirements.

Perishability of items.

Length of the production period.

Storage facilities.

Adequacy of capital to finance inventory and production some time in advance of sales.

Cost of holding inventory.

Protection against labour shortages.

Protection against price increases.

Protection against raw material shortages.

Risk involve in inventory: - price declines, obsolescence of inventory, casual losses and theft, lack of demand etc.

Depending upon the suitability of its nature, a firm may adopt any of the following inventory policies;

Stable inventory policy – An equal ending inventory is kept every time, so the planned production fluctuates with the size of planned sales units.

Fluctuating inventory policy – An equal production is maintained throughout the year, so the size of inventory fluctuates with the size of planned sales units.

Inventory-production coordination policy – Production and ending inventory units are adjusted as per the change in sales units.

Just-in-time inventory policy – Production is made when the output is in demand, so inventory is not kept except vary small quantity for sample display.

2.14.5 Material Purchase and usage Budget/Plan.

Planning and controlling purchases and material usages is the plan to maintain coordination between a) factory requirements for raw material, 2) raw materials inventory levels and 3) purchases of raw materials. The main aim of purchase budget is to plan purchase so that the organization should not have neither excess not shortage inventory which creates large investment. Sufficient raw materials will have to be available to meet production needs and to provide for the desired ending raw materials inventory. However, some quantity of material requirement will already exist in the form of beginning raw materials inventory. The remainder will have to be purchased from a supplier. “A purchase budget gives the details of materials purchase to be made in the budget period”. *(Rathnam p-15).*

“To assure that the appropriate amount of raw materials and component parts will be in hand at the time required and to plan for the cost of such materials and parts, the tactical short term profit plan should include a) a detail budget that specifies the quantity and cost of such materials and parts and b) a related budget of materials and parts purchase. Planning for raw material and parts usually requires the following four heads;

Materials and parts budget.

Materials and parts purchase budget.

Materials and parts inventory budget.

Cost of materials and parts used budget". *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p240-241).*

2.14.6 Labour Budget

"The direct labour budget includes the planned direct labour requirement necessary to purchase. The types and quantities of outputs planned in the production budget. The primary reasons for using a separate direct labour budget are to provide planning data about the amount of direct labour, required number of direct labour/employees needed, labour cost of each unit and cash flow requirements." *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p280-281)*

2.14.6.1 Developing the direct labour budget

Direct labour budget should be developed by responsibility centres interim period and products. It depends primarily on the 1) method of wage payment 2) type of production processes involved 3) availability of standard labour times and 4) adequacy of the cost accounting records relating to direct labour cost. Basically following three approaches are used to develop the direct labour budget;

Estimate the standard direct labour hours required for each unit of each product that estimate the average wage rate by department cost centres or operation. Multiply standard time per unit of product by the average hourly wage rate, giving the direct labour cost per unit of output for the development cost centre or operation. Multiply the units of output planned for the department, cost centre or operation by the direct labour cost rate to obtain the total direct labour cost by product.

Estimate ratio of direct labour cost to some measures of output that can be planed realistically.

Develop personnel tables by enumerating personnel requirement (including cost) for direct labour in each responsibility centres". *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p281-282)*

2.14.7 Overhead budget

"To maintain reasonable expenses level to support the objectives and planned programs of the enterprise, expenses planning should not focus on decreasing expenses, but rather in better utilization of limited resources. Expenses planning and control should focus on the relationship between expenditures and the benefits derived from those expenditures. The desired benefits should be viewed as goals and sufficient resources must be planned to support the operating activities essentials for their accomplishment." *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p302)*

"Knowledge of cost behaviour is essential in cost planning and control. It is the response of a cost to difference volumes of output when expenses are viewed in relation to change in output." *(Fago, Koirala, p-94)*

2.14.7.1 Manufacturing overhead budget

"Manufacturing overheads is a part of total production cost not directly identifiable with specific products or jobs. Manufacturing overhead consists of 1) indirect materials 2) indirect labour and 3) all other miscellaneous factory expenses." *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p307)*

2.14.8 Selling & distribution expenses budget

"Distribution expenses include all cost related to selling, distribution and delivery of products to the customer. Fundamentally, the top marketing management has the direct responsibility for planning the optimum economic balance amount 1) the sales budget 2) the advertising budget and 3) the distribution expenses budget. Therefore, PPC views sales

advertising and distribution expenses as one basic problem because these three aspects are interrelationship." *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p313-314).*

"Mainly there are two types of selling expenses 1) sales office expenses, which cover the cost of salesman and their administrative support 2) sales direction and promotion expenses, which covers the cost of directing the sales effort and promotional charges such as advertising". *(Halsall p-63)*

2.14.9 Administrative expenses budget

"Administrative expenses include those expenses other than manufacturing and distribution. They are incurred in the responsibility centre that provide supervision of service to all functions of the enterprise rather than in the performance of any one function. Each administrative expense should be directly identified with responsibility centres and the centre manager should be responsible for planning and controlling the expenses. This budge should be based on past experience, plans, programs adjusted for anticipated changes in management policy and general economic conditions as helpful. Because most administrative expenses are fixed." *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p316-317)*

2.14.10 Capital expenditure budget

"Capital budgeting is the process of planning and controlling the strategic and tactical expenditures for expansion and contraction of investment in operating assets." *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p213-214)*

"Capital budgeting may be defined as the firm's decision to invest it's current funds most efficiently in the long term assets in anticipation of an expected flow of benefits over a series of years." *(I.M. Pandey, p-334)*

“The essence of capital investment analysis is in comparing the benefits that occur over a period of time with the amount invested. The comparison is made with a view to judging or not the benefits are at lease as high the amount invested.” *(Van Horne, James C. 1976)*

2.15 Cash Budget

Cash budgeting is an effective way to plan and control the cash flows, assess the cash needs and effectively use excess cash. A cash budget shows the planned cash inflows, outflows and ending position by interim periods for a specific time span. It basically includes two parts 1) the planned cash receipts (inflows) and 2) the planned cash payments (outflows). Planning cash inflows and outflows give the planned beginning and ending cash position. It will indicate: 1) the need for financing problems/cash deficits or 2) the need for investment planning to put excess cash to profitable use.” *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p433-434)*

“Planning includes consideration of how to improve cash flows. The management should focus in a) the cash collection process to speed up cash collection, b) the cash payment process to show down the payment of cash and c) the investment policies for the immediate investment of idle cash balance to maximize interest earnings.” *(Welsch G.A., Hilton, R.W. & Gordon, P.N. 1992, p454-455)*

“The cash budget is forecast of expected cash receipt and payments for a future period.” *(Rathnam. P-275)*

2.16 Flexible Budget

Flexible expenses budget focus on both planned expenses and the control of expenses. Its concept is complimentary to the actual profit plan. Flexible budgets directly relates only to expenses. Flexible budgets are also called variable/dynamic/activity/output adjusted expenses budget. The

fundamental concepts of flexible budgets for expenses are incurred because of a) the passage of time b) output or productivity or c) a combination of time and output or activity. Application of this concept means that:

Expenses must be identified as to their fixed and variable components when related to output or productive activity.

Expenses must be reasonably related to output or productive activity.

Output or production activity must be reliably measurable.

Flexible budget formulas for each expense must be for a specified time period and for a specified relevant range of output or productive activity.

For planning and controlling purpose flexible budget formulas must be developed for each expense uses responsibility centre in an enterprise.

2.17 Control process of PPC

There are certain processes to control profit plan:

Cost volume and profit analysis.

Performance evaluation and management control.

Analysis of budget variance.

2.18 Cost-volume-profit (CVP) analysis

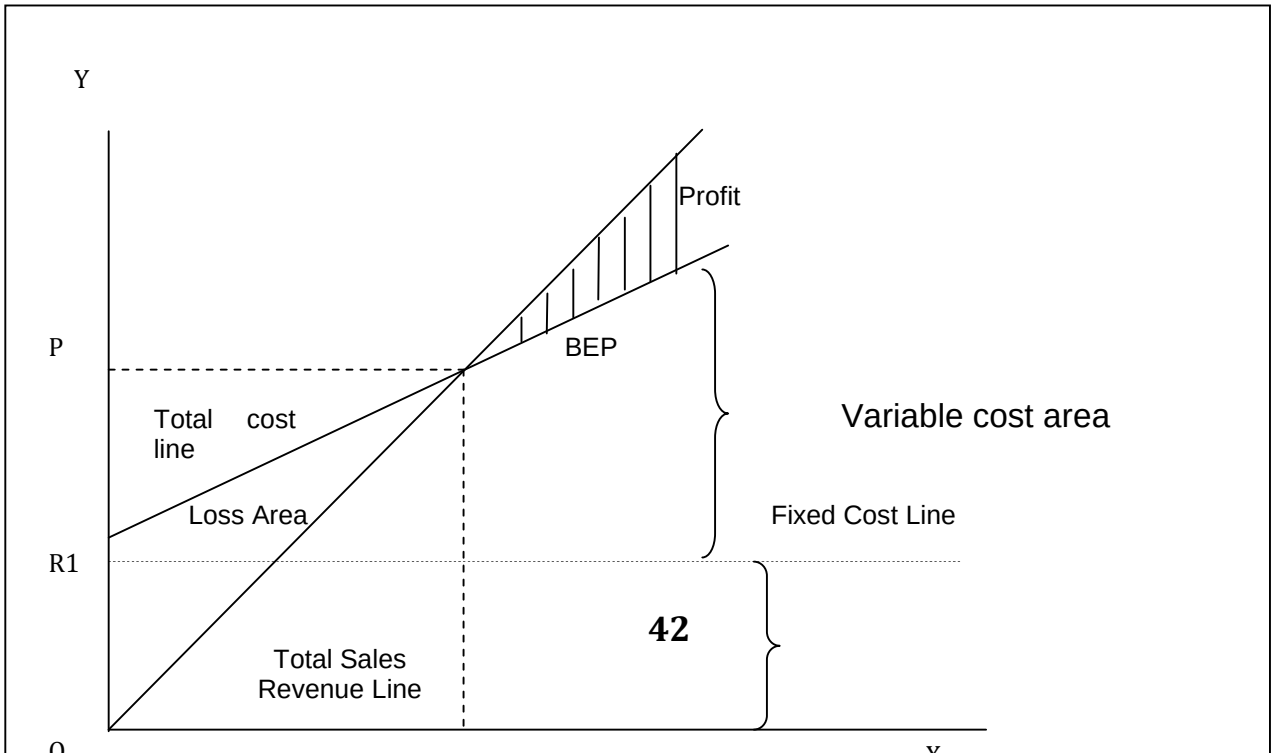
The relationship between cost, volume and profit is known as cost-volume-profit (CVP) analysis. Cost is a measurement in monetary term of the amount of resource sacrifice for some special purpose. Similarly, volume is the level of activity in the organization for a certain product. Profit is excess

of the revenue over the expenditure. CVP analysis helps to determine the minimum sales volume to avoid losses and the sales volume at which the profit goal of the firm will be achieved. It helps management in seeking the most profitable combination of cost and volume.

Break Even Analysis

Break even analysis is widely known as a form of CVP analysis. Break-even analysis established a relationship between revenues and costs with respect to volume. It indicates the level of sales at which costs and revenues are in equilibrium. The equilibrium point is commonly known as the break-even point. Break-even gives an idea about the level of output or productive activity at which sales revenue exactly totals costs; that is, there is no profit or loss. At break sales, the company just break-even i.e. covers all of its costs. Break is a point at which a company breaks the losses (minus) zone and enters into profit zone. It helps the management to know which sales volume will only recover its costs and after which it starts giving profit. If the sale is higher than break-even volume, there will be profit. In the same way if the sale is less than break-even sales there will be loss.

Graphical Approach to CVP *(Figure 2.2)*



Fixed cost area

This above graph clearly shows that if the company can reach the point of BEP it can generate sufficient revenues to cover all its operating expenses. At this point, the total revenues equal the total cost. Here, the revenue curve breaks up (intersects) the total cost curve, that's why this point is called break-even point. In short, break even point is that point where,

Total Sales Revenue = Total Costs

2.19. Review of Related Studies

Main purpose of the literature review is to find out the work have been done in the area of research problem under the study. Moreover what has not been done in the field of the research study being undertaken? There are some research papers in the area of the profit planning and control. The previous related studies to PPC are as follows:

Ojha (1995) has done a research on the profit planning and control in manufacturing public enterprises in Nepal. For case study, he has selected two public enterprises namely Royal Drugs Limited (RDL) and Herbs Production and Processing Company Limited (HPPCL). His research was in partial fulfilment of MBA, submitted to the Central Department of Management, Tribhuvan University. The study has covered a five-year period from FY 2046/47 to 2050/51. His objectives of the study were:

Ojha has pointed out various findings and recommendations based on the analysis of data and information. Some of the major findings are as follows:

Inadequate planning of profit due to lack of skilled manpower.

Inadequate authority and responsibility to planning department.

Various costs are not diagnosed as controllable and non-controllable expenses.

Pricing system is not scientific.

Failure due to inadequate forecasting system.

Lack of entrepreneurship and commercial concepts in overall operations of enterprises.

Neupane (1995) has conducted the research work on the topic “Profit planning and control in Manufacturing Public Enterprise in Nepal: A case study of Hetauda Cement Industry Limited”. The main objectives focused by him were to interpret the trend of profit planning of Hetauda Cement Industry Limited and to see how far the HCIL is participating in contributing in the national development. The nature of data used was primary as well as secondary.

Neupane has pointed out some major findings based on his analysis.

Power is unnecessarily centralized, so that decision making is only from top level.

No clear concept of forecasting and implementation is followed.

Inadequate planning of profits, due to lack of experts and planners.

Inadequate supply of raw materials and planning of materials.

Lack of entrepreneurship and commercial concept in the organization.

Lack of expressed and well defined rules, responsibilities and authorities.

Badu (1996) has submitted a research about profit planning manufacturing public enterprises. In his research, he has tried to point out some features and problems of profit planning in Nepalese manufacturing PEs. For this study he has selected a public enterprise. Dairy Development Corporation and some features and problems of profit planning, prevailing practices and premises for implementing profit planning in Nepalese PEs are discussed.

The main objectives of this research work were as follows:
To analyze the various functional budgets adopted in the enterprise.

To examine the capacity utilization of DDC.

To assess the financial performance of DDC using BEP analysis

To provide required suggestions on profit planning.

For accomplishing the above stated objectives, Mr. Badu has made his research covering the time period of five years from 2049/50 to 2053/54. Research methodology was followed through secondary procedure but for the essential information primary data were also used.

Badu listed the following major findings:
DDC has practiced short term planning rather than long term planning.

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

The company fails to maintain its periodic performance report systematically.

The top level executive are only involved in planning and decision making and lower level participation is not found.

There is not separate planning department and expert plan is prepared on traditional and adhoc basis.

Dumre (1997) has submitted the thesis on the topic “Profit Planning Practice Nepalese Public Enterprise: A case study of DDC”. The study is mainly concerned with the appraisal of Dairy Development Corporation and examines that in what extent the company is applying profit-planning system. Mr. Dumre has covered the data of five years. In his research paper he has used both primary and secondary data by various sources. He has listed the following major findings:

To achieve the basic objective, DDC has not clearly defined its main objective in annual goal or target.

The production plan depends upon sales plan but in case of DDC the production plan is basic plan of sales plan because supply side is more important than demand.

The reason of failure to raise profit in Nepalese manufacturing PEs is lack of knowledge about the market situation and lack of systematic planning. It is the situation of DDC.

The commercial performance of DDC is poor, so the enterprise is not in the position to bear the financing into research and to increase plant capacity by internal fund.

There is not separate costing department in DDC. Costing is done by traditional method and there is no practice of the cost as variable and fixed or controllable and not controllable or direct and indirect etc.

There is no proper planning for cost control mechanism and performance reporting.

DDC has lack of budgeting experts, skilled planners and entrepreneurship. Planning department has no adequate authority to decide and create new ideas to formulate various plans.

Thapa (2000) has tried to point out some features and problems of profit planning in the context of Nepalese manufacturing enterprises: A comparative study on profit planning of Dairy Development Corporation and Sita Ram Dairy Milk, submitted to the Central Development of Management, TU. Thapa has listed the following major findings.

DDC has concentrated its whole effort on the survival of the company.

Sales figure (both targeted and achievement) of SRD are more inconsistent variable than that of DDC.

Both companies have positive correlation between actual and target sales.

SRD's capacity utilization is poorer than that of DDC's capacity utilization.

SRD has highly been successful to maintain so-ordination than DDC.

Overall responsibility of profit planning is under finance department in SRD whereas it is under account department in DDC.

Both companies have not proposed profit planning except sales and production plan.

DDC and SRD have been suffering from operating loss for many years. The main cause is low contribution margin ratio, high fixed cost and underutilization of capacity.

Adhikari (2004) has done the research on "profit planning in manufacturing enterprises: A case study of DDC" with the objectives of:

To analyze the functional budgets on sales and production sector of DDC.

To analyze various accounting ratios, major the profitability and efficiency of DDC, analyze the budget target and its achievement along with reason of deviation (if any), provide valuable recommendations and suggestions based on analysis.

Adhikari has summarized his remarkable findings are:
DDC has practice short term planning rather than long term planning; the time is covered by interim period any by product.

Production and sales of DDC is increasing annually although the growth rate is fluctuated, the correlation between actual and targeted sales is positive.

The corporation has no proper practice in suggestion cost into fixed and variables.

There is positive correlation between target actual productions of milk.

Most of the budget figures are higher than actual figure.

DDC has applied stable inventory policy with opening stock of inventory but this policy is not applied in practices. It has 1% store losses and 0.5% distribution losses of milk.

DDC has prepared direct labour budget only based on technical and administration; it is not prepared according to the time and rate.

Capacity utilization is very high but production ratio is very low.

The CVP analysis shows that DDC is operating below the break-even point and flexible budget of DDC shows 90% variable cost of sales revenue.

DDC utilized corporate fund as long-term loan and from international agencies like US aid.

DDC has not clear attainable objectives, policies and strategies, timely accounting and auditing work are not maintained, financial statements accounting are out of the financial rules.

The present management doesn't have any program of perfect profit planning.

2.20 Research Gap

Research is a continuous process having no ending point. Every researcher tries his/her efforts to fulfil the gap, which has not been covered by the previous research work. So, the researcher has attempted to fulfil the following matters:

Most of the studies of PPC have been done in respect of manufacturing public enterprises but this study examines the current practice of budgeting as a tool of PPC in KD as a private dairy sector.

Previous studies have compared private dairy to DDC but this research has been contributed sole study on private dairy with reference to KD.

This study gives a high degree of value as the process and the data used in a systematic way study of budgeting.

So this study will be fruitful to those interested Person, Scholars, Students, Teachers, Government, Businessman, Civil society and other stakeholders for academic and policy prospective.

CHAPTER- III

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a way to systematically solve the research problem. In other words it describes the methods and processes applied in the entire aspect of the study. Research means to search or study about a phenomenon. The word research is composed by're' and 'search' where re means repeatedly or again and again, and search means to investigate or find. Thus to search again and again is research. Generally, research is an effort to search new fact, knowledge, and principle in scientific manner. Any systematic research study requires a proper methodology to achieve the set objectives. Research is a careful investigates or inquiry into any subject matter, which is an attempt to discover to find out proposed information or relationship that would be useful for further application. Research methodology is a systematic way of finding solution to a research problem i.e. systematic collection, recollection, recording, analysis, interpretation, and reporting of information. Research methodology refers to the various sequential steps to be adopted by a researcher in studying problems with certain objective view. The research methodology methods and techniques are convenience and appropriate for analyzing the data and information collected .This includes personal observation, questionnaire distribution, secondary data collection, annual report, previous study, websites etc. This chapter deals with the research methodology by which the collected data are analyzed to get the results. In other words it describes the methods and processes applied in the entire aspect of the study. This chapter provides the methodology followed to achieve the objectives stated in this research work. It refers to the various sequential steps to be adopted by a

researcher in studying a problem with certain objectives in view. In other words, research methodology describes the method and process to be followed during the research work *(Kothari C.R., 1990, p-10)*. Research methodology depends on the various aspects of research projects. The size of project, the objective of project, impact of project in various aspects of human life etc are the variables that determine the research methodology of the particular projects,' however the following steps provide a useful procedural guidance. This chapter focuses and deals with the following aspects of methodology:

Research design

Population and sample

Period covered.

Sources of data

Methods of Data Processing and Tools Used

Research Design

Research design is the conceptual structure, plan or strategy of investigation within which research is conducted. Before making a research, the researcher needs to plan which help as a path in order to achieving goal. Research design helps researcher to enable him to keep track of his action and to know whether he was moving in the right direction to achieve his goal. This study covers quantitative methodology in a greater extent and also uses the descriptive part based on both technical aspect and logical aspect. This study is carried out to get the empirical result of the stock price movements. This research also tries to perform a well-designed quantitative research in a very clear and direct way using both financial and statistical tools as required by the study. All the data used in this study are

secondary in nature. Though the research tried to concentrate on quite a specified subject area, it could not ignore some other relevant areas of study, which may give further support to the research. Moreover some subject matters are so interrelated that ignoring one may halt the whole research. Thus, this study is much diversified within the topic of budgeting as a tool of profit planning and control. It was historical data to develop generalization.

Population and Sample

The large group about which the generalization is made is called the population under study. Because of the large group size, it is fairly difficult to collect detail information from each member of population. Rather than collecting detail information from each number, the small portion is chosen as representation of the population is called the sample. Altogether thirty two dairy companies operating in Nepal are considered to be the total population of the study. Due to lack of time and resource factor, it is not possible to study all of them. Hence, the Kathmandu Dairy has been taken as a sample for the study.

3.4 Period Covered

This research study covers the last five years i.e. fiscal year 2059/60 to 2063/64 and Kathmandu Dairy's strength and weaknesses of managerial planning and other related things are identified.

Sources of Data

Once the purpose of statistical investigation has been defined, the next step is to collect the data, which are relevant for analysis in a meaningful manner. Thus collection of data is considered as an integral part of the research activity. The sources of information are generally classified as

primary and secondary. Data collected by the researcher or through agent for the first time from related field and possessing original character are known as primary source or data. On other hand, data collected by someone else, used already and are made available to others in the form of published statistics are known as secondary data. Once primary data have been used, it loses its primary characteristics (originality) and becomes secondary. The secondary data has been used in this study. Basically, secondary data has been collected from the annual reports of KD, company's publications, books and journals/magazines, booklets and Internet etc. Thus, secondary is the main source of data and other necessary information has been obtained throughout the research form authorized staff of KD, Babarmahal, Kathmandu. Some of these data were published while other was unpublished.

3.6 Methods of Data Processing and Tools Used

As stated earlier, the basic structure of this study is descriptive and analytical as well. In order to make the study more precise, the data are presented in tabular from. Charts and diagrams are used to clarify and verify the data presented. The analysis of data is done with the help of financial and statistical tools.

3.6.1 Accounting and financial tools

The accounting and financial tools are used to measure the financial strength or position of an entity. The accounting and financial tools are as follows;

Contribution margin ratio.

Break-even analysis.

Gross profit margin ratio.

Net profit margin ratio.

3.6.2 Mathematical and statistical tools

To evaluate the planned and actual achievement and effect on capital structure of a firm, statistical tools plays vital role. By the help of statistical tools, a financial manager can easily observe the direction that the business taking out. Thus, the statistical tools can be used as supporting tools of financial tools. In this study, various statistical tools are used to evaluate the performance of KD and research work. The following different statistical tools can be used. They are as follows;

3.6.2.1: Arithmetic Mean:

An average is the statistical measure of central tendency; it represents the entire series by a single value, which can be substituted for each and every value in the series without causing any change in the total magnitude of the series. So, Arithmetic mean of a given set of observations is their sum divided by the number of observations. It can be computed as under:

$$\overline{X} = \frac{\sum X}{N}$$

Where as,

$\overline{X}$ = *Arithmetic* mean /the average/simply mean.

$\sum X$ = *Sum* of the total observation/sum of values.

N = Number of observations.

3.6.2.2: Standard Deviation:

The standard deviation is the most important and widely used measure of dispersion or variability. The standard deviation is the square root of the

mean squared deviations from the arithmetic mean and is denoted by S.D. or σ (i.e. sigma). The S.D. is also called 'root-mean-squared-deviation.

The standard deviation, usually denoted by the letter σ (small sigma) of the Greek alphabet was first suggested by Karl Pearson as measure of dispersion in 1893. It is defined as the positive square root of the arithmetic mean. It provides more information about the risk of the asset. It is an improvement over the mean deviation and is free for the defects of other measures of dispersion. It measures the dispersion of returns around the mean. The standard deviation of a distribution is the square root of the variance of returns around the mean. The greater amount of dispersion the greater the standard deviation. A small standard deviation means high degree of uniformity of the observations or homogeneity of a series and vice versa. Thus, if X_1, X_2….. X_n is a set of n observations then its standard deviation is given by:

$$\pm = \sqrt{\frac{\sum (X - \overline{X})^2}{N}}$$

Where as, σ = Standard deviation of observations.

x =observed value.

x = mean of variance.

N = number of observation.

Higher the value of s.d., higher the risk and lower the s.d., lower the risk for the company.

3.6.2.3 Coefficient of Variation

The relative measure of dispersion based on the standard deviation is known as the coefficient of standard deviation. The coefficient of dispersion based on standard deviation multiplies by 100 is known as the coefficient of variation (CV). It is suitable for comparing the variability, homogeneity or

uniformity of two or more distributions. A distribution having less CV is said to be less variability or more uniformity homogeneity, consistency etc. and vice versa. The risk per unit of expected return can be measured by coefficient of variation, which is computed as follows:

$$CV = \frac{\pm}{\overline{X}} \times 100$$

Where,
CV = coefficient of variation.
σ_j = standard deviation
$\overline{X}$ = Mean

3.6.2.4 Correlation Analysis:

The correlation analysis is a statistical tool, which studies the relationship between two variables and correlation analysis involves various methods and techniques used for studying and measuring the extent of the relationship between the two variables.

Correlation is an analysis of the co-variance between two or more variables. When the relationship is of a quantitative nature, the appropriate statistical tools for discovering and measuring the relationship and expressing it in a brief formula is known as correlation.

Therefore, correlation is a most widely used statistical tool to measure the degree of relationship or association between \ among two or more variables. It shows the relationship between dependent and independent variables. The commonly used methods for studying the correlation between two variables are as follows,

Scatter diagram method.

Karl Pearson's coefficient of correlation method.

Rank method.

Two- way frequency table method.

Concurrent deviation method.

Among these above methods, the most widely used method in practice; Karl Pearson's coefficient of correlation method can be used to analyze the data.

A mathematical method for measuring the intensity or the magnitude of linear relationship between two variables series was suggested by Karl Pearson (1867-1936) and this method is also called covariance method. Karl Pearson's also known as pearsonian measures correlation coefficient between two variables (series) x and y. Usually, denoted by r(x,y) or rxy or simply r is numerical measure of linear relationship between them and is defined as the ratio of the covariance between x and y, written as cov.(x, y) to the product of the standard deviation of x and y.

Symbolically,

$$r = \frac{Cov.(x, y)}{\pm_x \pm_y}$$

where, r=correlation coefficient

x & y= series

σ_x = standard deviation of x

σ_y =standard deviation of y

cov.= covariance.

This formula correlation coefficient can be written as;

$$r = \frac{n\Sigma XY - \Sigma X \Sigma Y}{\sqrt{n\Sigma x^2 - (\Sigma X)^2}\sqrt{n\Sigma Y^2 - (\Sigma Y)^2}}$$

Where, n= number of pairs of observation

Σ=summation (total)

Properties of correlation coefficient: - The following are the important properties of correlation coefficient.

The value of correlation coefficient lies between -1 to +1. (i.e. $-1 \leq r \leq +1$)

Interpretations:

If r=1, i.e. there is perfect positive relationship between the two variables.

If r= -1, i.e. there is perfect negative relationship between the two variables.

If r= 0, i.e. there is no correlation at all.

The closer the value of r is to 1 or – 1, the closer the relationship between the variables and the closer r is to 0, the less close relationship, while estimating the value of one variable from the value of other variable, the higher the value of r, the better the estimates.

3.6.3 Testing of Hypothesis;

The method of statistics, which helps in arriving at the criterion for decision, is called test of hypothesis or hypothesis testing. A hypothesis is an assumption that we make about the population parameter. The test of hypothesis is a process of testing of significance regarding the parameter of the population on the basis of sample drawn from the population. The test of hypothesis discloses the fact whether the difference between the computed statistic and hypothetical parameter is significant.

A statistical is assumption or statement, which may or may not be true, about a population or equivalently about the probability distribution characterizing the given population, which we want to test on the basis of the evidence from a random sample. If the hypothesis completely specifies the population, then it is known as composite hypothesis.

Thus the hypothesis is an assumption and is used to test whether the assumption is right or not i.e. the testing of hypothesis. The statistical hypothesis may be divided into following types:

(A) Null hypothesis: A statistical hypothesis, which is stated for the purpose of possible acceptance is called a null hypothesis, and suggests that there is no difference between population mean and sample mean i.e. e. they are same and equal. Null hypothesis is hypothesis which is tested for possible rejection under the assumption that it is true.

Null hypothesis always denoted by H0.

(B) Alternative hypothesis: Alternative hypothesis is important to decide that whether the null hypothesis is acceptance or not. Any hypothesis which is complementary to the null hypothesis is called an alternative hypothesis.

It is usually denoted by H1.

(C)Test of significance: A Procedure to assess the significance of a statistic or difference two independent statistics is known as test of significance.

The commonly used levels of significance are 1 %(0.01) and 5 %(0.05).If we use 5%, it implies that in 5 cases out of 100 cases we are likely to reject H0 is correct. The level of significance should be fixed in advance before applying the test.

Thus, the main objective of testing of hypothesis is to evaluate the difference between sample static and population parameter. Hypothesis is tested in certain percentage of level of significance.

3.6.4: Trend Analysis:

A trend is a direction or sequence of events that have some momentum and durability. Trend analysis shows the changes i.e. increasing or decreasing or constant up to some extent of variables of the company over a period of time. And it also forecasts for future guideline of the company.

Trend, also called secular or long-term trend, is the basic tendency of a series to grow or decline over a period of time. The concept of trend does not include short – range oscillations, but rather the steady movement over a long time. Trend analysis is valuable to compare the financial ratios for a given company overtime. In this way the analyst is able to defect any improvement or deterioration in its financial condition and performance.

Trend analysis helps in business forecasting and planning the future operations. For example, if the time series for a particular phenomenon exhibits a trend in a particular direction, then under the assumption that the same pattern will continue in the neat future. Trend analysis is a tool to compare two or more time series over different periods of time and draw important conclusions about them.

Trend analysis of ratios indicates the direction of change. This kind of analysis is particularly applicable to the items of profit and loss account. It is advisable that trends of sales and net income may be studied in the light of two factors; the rate of fixed expansion or secular trend in the growth of the business and the general price level. It might be found in practice that a number of firms would show a persistent growth over a period of years. But to get a true trend of growth, the sales figure should be adjusted by a suitable index of general prices. Another method of security trend of growth and one, which can be used instead of the adjusted sales figures or as check on them, is to tabulate and plot the output or physical volume of sales expressed in suitable units of measure. For trend analysis, the use of

index numbers is generally advocated. The procedure followed is to assign the number 100 to items of the base year and to calculate percentage changes in each item of other years in relation to the base year. This procedure may be called as “trend- percentage method.

Regression Analysis

The term ’regression’ literally means ’stepping back towards the average’. The concept of regression was first given by the English biometrician Sir Francis Galton (1822-1911) in reports of his research on heredity. He described a tendency of adult offspring having either short or taller parents to revert back towards the average height of general population. The regression analysis is used to estimate the likely value of one variable form the known value of the other variable i.e. in regression analysis we establish a kind of average irreversible functional relationship between two variables. In other words, regression analysis is a mathematical measure of the average relationship between two or more variables in terms of original units of data. There are two types of variables in regression analysis; dependent variable and independent variable. The variable whose value is influence or is to be predicted is called dependent variable whereas the variable which influences the value or is used for prediction is called independent variable. The dependent variable is also known as regressed or explained variable while the independent variable is called as regression or predictor or explanatory variable *(Sthapit, Azay Bikram et.al., 2003).*

In simple linear regression, a mathematical regression equation is developed to describe the functional relationship that exists between the two variables. Regression lines expressed in terms of algebraic relations are known as regression equations. There are two lines of regression, so there are two equations of regression.

The regression equations of y on x, which is used to describe the variation in the value of y of given change in the value of x.

The regression equation of y on x be

$y = a + bx$

Where,

y = dependent variable

a = regression constant

b = slope of regression liner or regression coefficient of y on x

x = independent variable

This model has been applied for analyzing the five years data form 2059/60 to 2063/64.

The regression equation of x on y, which is used to describe the variation in the value of x of given change in the value of y, such line is drawn to find out the values by using two normal equations which are as follows:

$\Sigma y = Na + b \Sigma x$ ... (i)

$\Sigma xy = a \Sigma x + b \Sigma x2$ ... (ii)

Where,

a and b are unknown

N = Number of observations in the sample

CHAPTER IV
PRESENTATION AND ANALYSIS OF DATA

4.1 INTRODUCTION

This chapter deals with data presentation, analysis and interpretation following the research methodology presented in the third chapter. Data presentation and analysis are the central steps of the study. The main purpose of this chapter is to analyze and elucidate the collected data to achieve the objective of the study following the conversion of unprocessed data to an understandable presentation. The chapter deals with the main body of the study.

Data presentation is the interpretation of the study. Data analysis summarizes the collected data and its interpretation presents the major findings of the study. Analysis is not complete without interpretation, and interpretation cannot proceed without analysis. In this course of analysis, data gathered from various sources have been inserted in the tabular form and shown in diagram form. The data have been analyzed by using financial and statistical tools. The results of the computation have also been summarized in appropriated tables. The samples of computation of each model have been included in annexes.

The main objective of this study is to search and highlight the use and application of profit planning in Kathmandu Dairy. To accomplishment this objective, this chapter will analyze the various aspects of profit planning and their actual accomplishment. Effort has been made to point out the reason of deviation between actual and target result.

Here all sales, production and other related figures and data of previous year are to be presented, calculated and analyzed to find the overall

financial trend and condition. For this case, it takes the financial figures of five years covering from 2061/62 to 2065/66.

4.2 Sales plan/ Budget.

The sales budget is an essential part of profit plan and control process because, it provides for the basic management decisions about marketing and based on these decisions. It is an organized approach for developing a comprehensive sales plan. It is a forecast of total sales expressed and incorporated in quantities and money. If sales plan is not realistic and reverent, all of the other parts of overall profit plan are also not realistic.

Every entity needs cash to meet all its expenses and obligations. The primary source of cash is sales revenue. So the sales plan is basic plan of profit plan and rest of other plans of profit plan depends upon the sales plan.

The primary purposes of sales plan are:
To reduce uncertainty about future revenues

To incorporate management judgement and decisions into the planning process.

To provide necessary information for developing other elements of comprehensive profit plan.

To facilitate management control of sales activities.

To identify the sales trend of past and to forecast the possible future trend of the Kathmandu Dairy, previous years budgeted sales and their achievement is presented in the table. To analyze the previous sales data of Kathmandu Dairy, the following table presents the budgeted sales and actual sales achievement (in Rs.) From FY 2061/62 to FY 2065/66.

Table 4.1
Sales Budget and Achievement

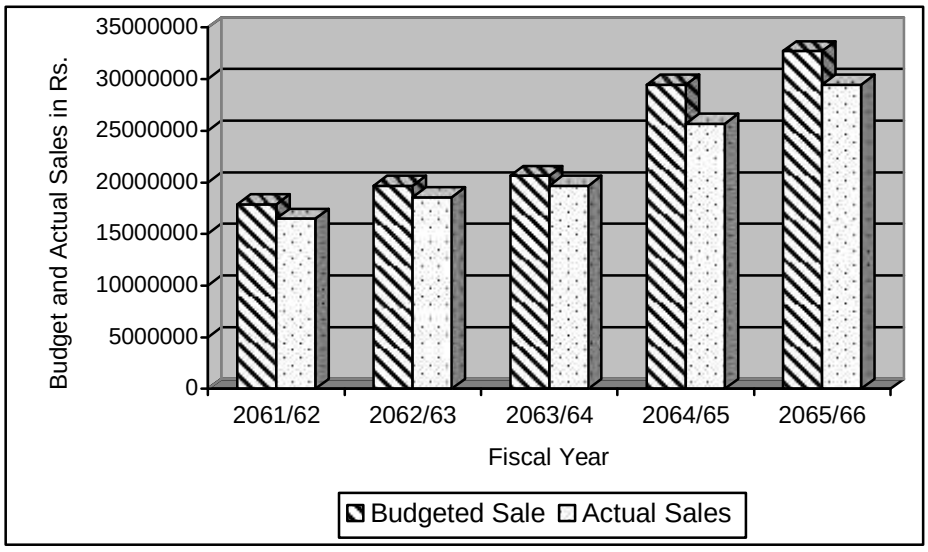
FY	Budgeted sales (Target) (Rs.)	Actual Sales (Rs.)	Achievement	Variance (unfavorable) = (Actual sales-Budgeted Sale)	
				In Amount	In Percentage
2061/62	17861146.41	16475121.45	92.24%	1386024.962	7.76%
2062/63	19653611.07	18547112.77	94.37%	1106498.303	5.63%
2063/64	20631070.17	19682040.94	95.40%	949029.2277	4.60%
2064/65	29446904.67	25657088.04	87.13%	3789816.631	12.87%
2065/66	32700413.20	29459831.71	90.09%	3240581.49	9.91%

Source: P/L a/c and B/S of KD of Relevant Years

The above table indicate that KD is not able to achieve the budgeted sales during the study period of five years. The sales achievement of KD in the FY 2061/62 was 92.24 percent. However it is sharply increased by 2.13% and reaches to 94.37% in the FY 2062/63. Such increasing trends came up to FY 2063/64 and at the end of FY 2064/65, the sales achievement decreased to 87.13%. In FY 2065/66 the sales achievement increase by 2.96%

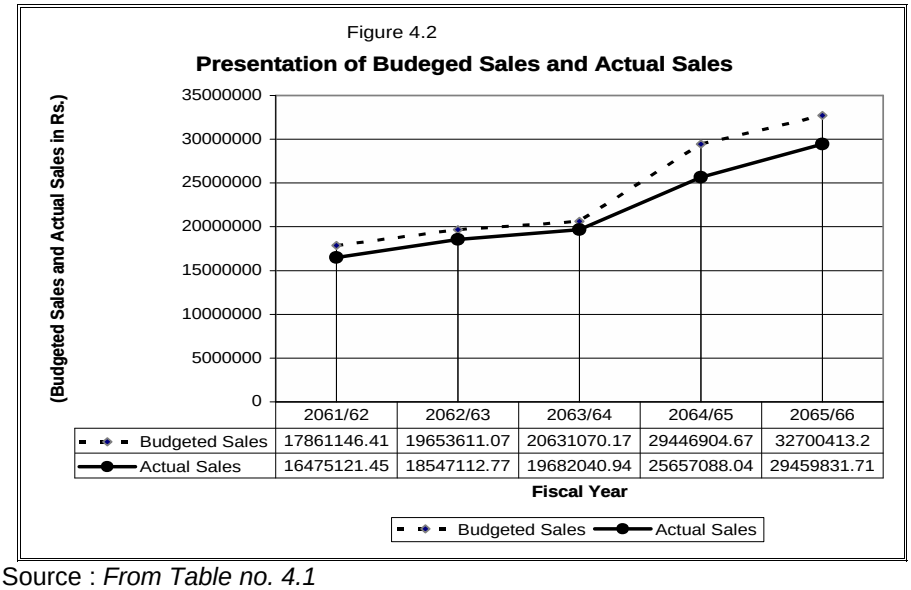
The above table clears that there is no favorable variance in any fiscal year. The unfavorable variance between target sales and actual sales are 7.76%, 5.63%, 4.60%, 12.87% and 9.91% in the FY 2059/60 to 2063/64 respectively. This unfavorable variance percentages shows that there is no systematic and scientific sales plan. To reduce or remove unfavorable variance percentage, the management should set the budgeted sales according to capacity of the enterprises. Budgeted and Actual sales of KD can be presented in the bar diagram and graph as below:

Figure 4.1
Bar Diagram of Budgeted Sales and Actual Sales



Source : *From Table no. 4.1*

The above diagram indicates that actual sales never meet the budgeted sales. The highest achievement is 95.40% in the FY 2063/64 and the lowest achievement is 87.13% in the FY 2064/65.



Source : *From Table no. 4.1*

The above figure no. 4.2 shows the trend of sales budget and sales achievement. The graphical presentation indicates that the gap between

target sales and actual sales is not very high but actual sales are always below the budgeted sales. The gap between budgeted and actual sales is very high in FY 2064/65 and low in FY 2063/64.

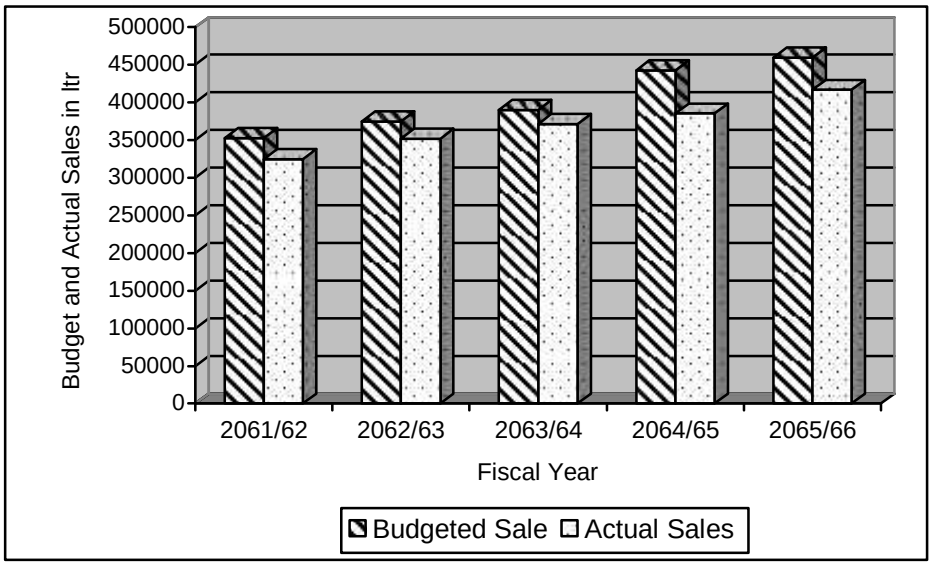
The products of Kathmandu Dairy are pasteurised milk, dahi, ghee, butter, panir and ice-cream. Its major products like milk, dahi, ghee and butter are taken into consideration while analysing the data. The following tables expel the budgeted and actual achievement of sales:

Table 4.2
Sales budget and achievement in units
Product: Milk

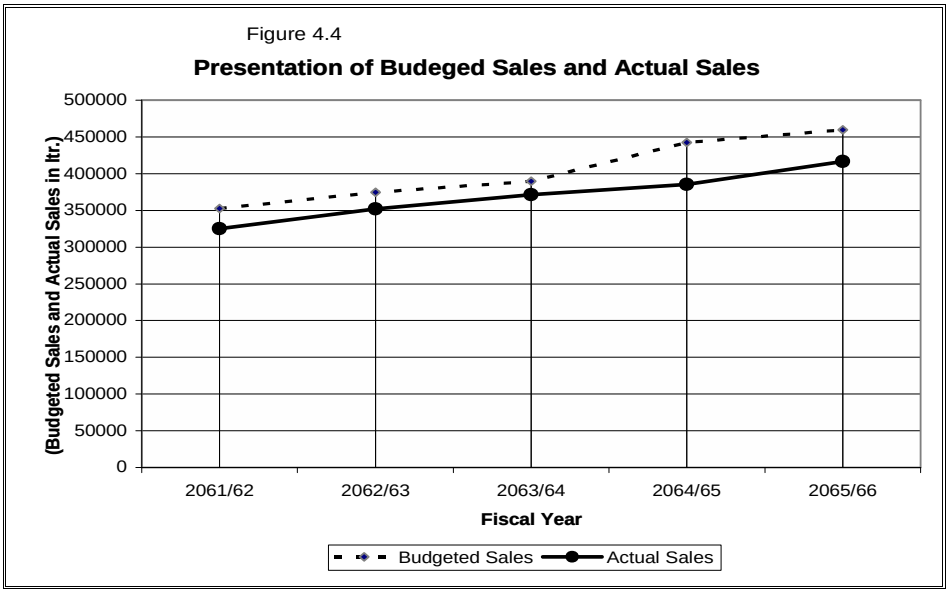
FY	Budgeted sales (Target) (in ltr)	Actual Sales (in ltr)	Achievement
2061/62	352560	324852	92.14%
2062/63	374655	351873	93.92%
2063/64	389762	371215	95.24%
2064/65	442418	385327	87.10%
2065/66	459712	416815	90.67%
Average			91.81%

The above table depicts that actual sale of milk is lower than budgeted sales. The sales achievement of KD in the FY 2061/62 was 92.14 percent. However it is increased by 1.78% and reaches to 93.92% in the FY 2062/63. Such increasing trends came up to FY 2063/64 and at the end of FY 2064/65, the sales achievement decreased to 87.10%. In FY 2065/66 the sales achievement increased by 3.57%. Budgeted sales and actual sales are presented in bar diagram below.

Figure 4.3
Bar diagram of budgeted sales and actual sales in ltr.



Budgeted sales and actual sales can be presented in following graph.



The above figure no. 4.4 shows the trend of sales budget and sales achievement. The graphical presentation indicates that the gap between target sales and actual sales is not very high but actual sales are always below the budgeted sales.

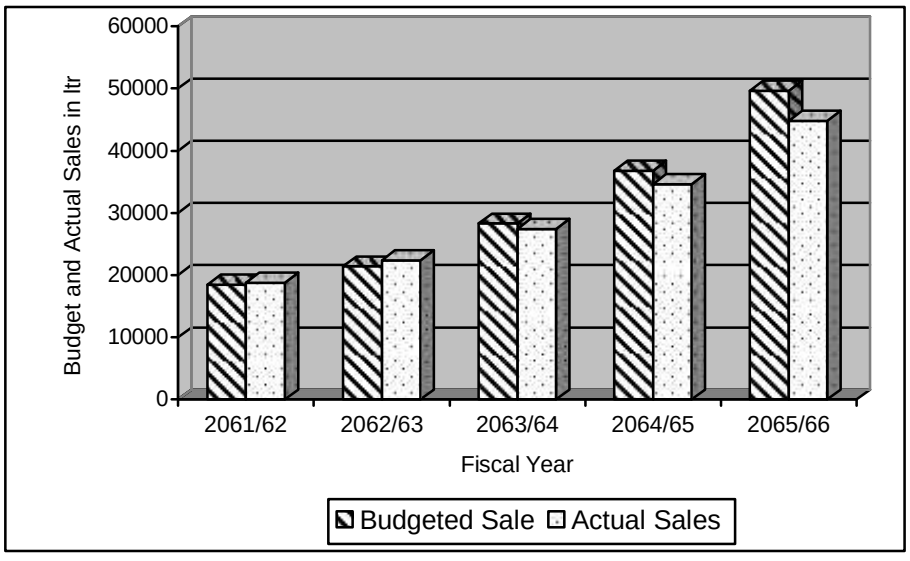
Product: Dahi (Yoghurt)

Table 4.3
Sales budget and achievement in units
Product: Dahi

FY	Budgeted sales (Target) (in ltr)	Actual Sales (in ltr)	Achievement
2061/62	18455	18812	101.93%
2062/63	21417	22365	104.43%
2063/64	28315	27413	96.81%
2064/65	36816	34624	94.05%
2065/66	49624	44836	90.35%
Average			97.51%

The above table shows that the actual sale of dahi is fluctuating over the study period. The sales achievement of KD in the FY 2061/62 was 101.93%. However it is lightly increased by 2.5% and reaches to 104.43% in the FY 2062/63 but again it sharply decrease in the FY 065/66 by 7.62%. The average achievement of dahi is 97.51%. Budgeted sales and actual sales are presented in bar diagram below.

Figure 4.5



Budgeted sales and actual sales can be presented in following graph.

2062/63	21417	22365
2063/64	28315	27413
2064/65	36816	34624
2065/66	49624	44836

The above graphical presentation shows the deviation between sales budget and sales achievement of dahi is not same in all fiscal year. There is a large gap in the FY 065/66.

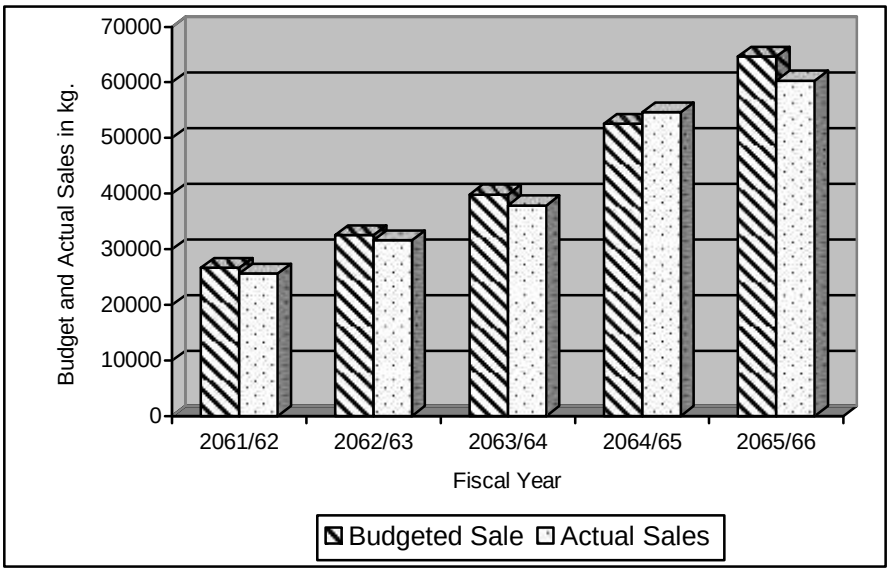
Product: Ghee

Table 4.4
Sales budget and achievement in units
Product: Ghee

FY	Budgeted sales (Target) (in kg)	Actual Sales (in kg)	Achievement
2061/62	26640	25622	96.18%
2060/61	32515	31615	97.23%
2061/62	39826	37872	95.09%
2062/63	52518	54624	104.01%
2063/64	64635	60328	93.34%
Average			97.17%

The above table shows that the actual sale of Ghee is fluctuating over the study period. The sales achievement of KD in the FY 2059/60 was 96.18%. However it is lightly increased in the year 060/61 and 061/62 but it is sharply increased by 8.92% and reaches to 104.01% in the FY 2062/63. The average achievement of ghee is 97.17%. Budgeted sales and actual sales are presented in bar diagram below.

Figure 4.7



Budgeted sales and actual sales can be presented in following graph.

F/Y	Budgeted Sales	Actual Sales
2061/62	26640	25622
2062/63	32515	31615
2063/64	39826	37872
2064/65	52518	54624
2065/66	64635	60328

The above graphical presentation shows that the line of actual sales of ghee has crossed the budgeted sales line in the year 062/63 but there is a large gap in the FY 063/64.

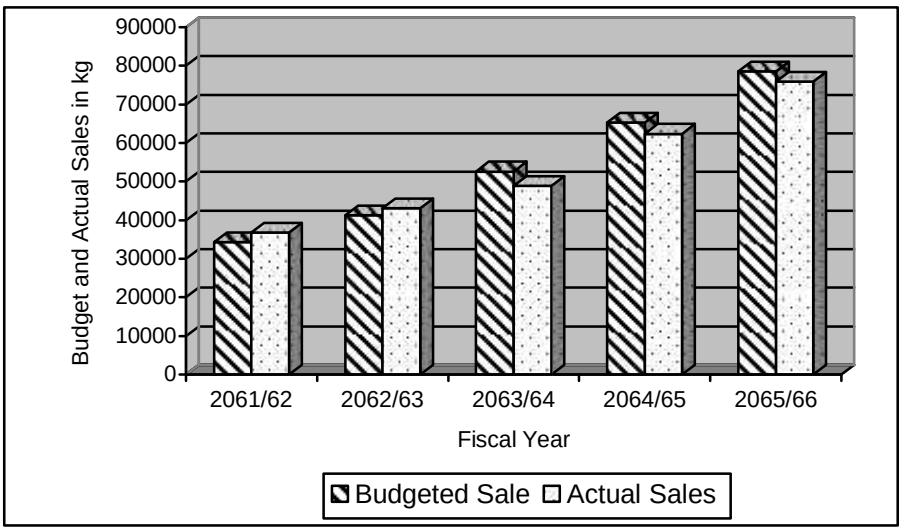
Product: Butter

Table 4.5
Sales budget and achievement in units
Product: Butter

FY	Budgeted sales (Target) (in kg)	Actual Sales (in kg)	Achievement
2061/62	34246	36815	107.50%
2062/63	41325	43036	104.14%
2063/64	52618	48925	92.98%
2064/65	65342	62413	95.52%
2065/66	78625	75918	96.56%
Average			99.34%

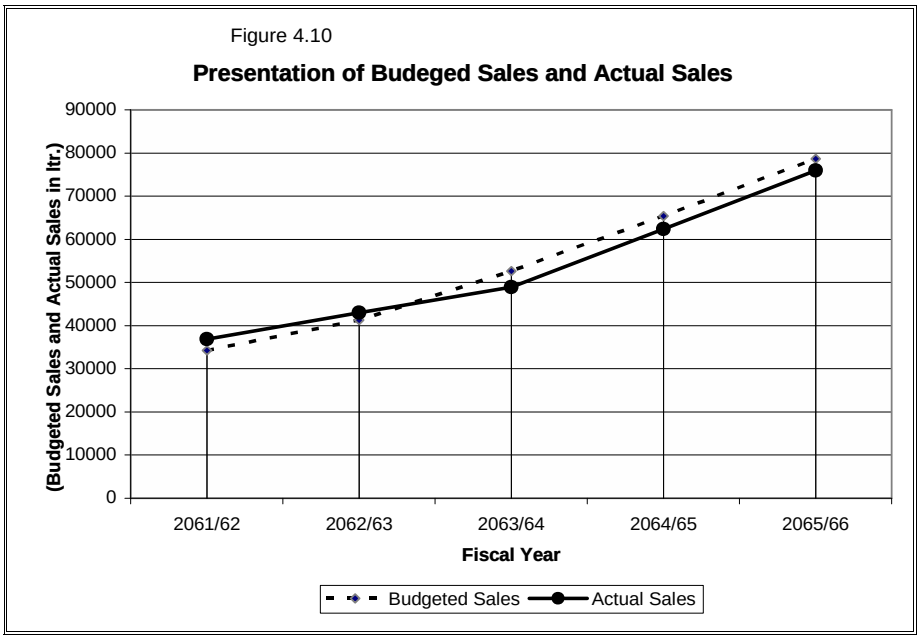
The above table shows that the actual sale of butter is fluctuating over the study period. The sales achievement of KD in the FY 2061/62 was 107.50%. But the trend of sales is decreasing year after year. However it is slightly decreased in the year 062/63 but steadily decreased in the year 063/64 and arrives at 92.98%.The average achievement of butter is 99.34%. Budgeted sales and actual sales are presented in bar diagram below.

Figure 4.9



Budgeted sales and actual sales of butter can be presented in following graph.

Figure 4.10



This graphical presentation shows that the line of actual sales of butter has crossed the budgeted sales line in the year 061/62 and 062/63 but did not meet the rest of the year.

From the above table we can calculate the arithmetic mean, standard deviation, coefficient of variation (C.V.) and correlation coefficient to find out the nature of variability of budgeted sales and actual sales. Detail calculations of these variables are presented in appendix-I, here only summary of that appendix is presented.

Table 4.6
Statistical Summary of Sales budget and achievement

Figure in '0000'

Products	Particular	Budgeted sales (Target)	Actual Sales (Achievement)
Milk	Mean	40.38	37.00
	S. Deviation (δ)	4.07136	3.09709
	Coeff. Variation (C.V.)	10.08%	8.37%
	Correlation Coefficient	0.957	
Dahi (Yogurt)	Mean	3.09	2.96
	S. Deviation (δ)	1.12960	0.9274
	Coeff. Variation (C.V.)	36.56%	31.33%
	Correlation Coefficient	0.998	

Ghee	Mean	4.32	4.20
	S. Deviation (δ)	1.3755	1.33267
	Coeff. Variation (C.V.)	31.84%	31.73%
	Correlation Coefficient	0.988	
Butter	Mean	5.44	5.34
	S. Deviation (δ)	1.60499	1.34834
	Coeff. Variation (C.V.)	29.50%	25.25%
	Correlation Coefficient	0.992	

The mean, S.D., and C.V. of actual sales of all products are lower than budgeted sales. Lower mean does not show the good performance and a small standard deviation means high degree of uniformity of the observations or homogeneity of a series and vice versa. Higher the value of s.d., higher the risk and lower the s.d., lower the risk for the company. Lower value of C.V. shows the lower degree of variability. A distribution having less CV is said to be less variability or more uniformity homogeneity, consistency etc. and vice versa. The risk per unit of expected return can be measured by coefficient of variation. The correlation (r_{xy}) budgeted sales and actual sales is greater than 6 x P.E. and it indicates that the value of r is highly significant. So it can be conclude that the actual sales of KD are in the same direction towards the budgeted sales.

Similarly, the regression analysis also can be used to find out the relationship between budgeted sales and the actual sales figure. The budgeted sales is assumed as independent variable and denoted by X and the actual sales is assumed as dependant variable and denoted by Y.

The regression line of Y on X be,

$$Y - \overline{Y} = r \frac{\pm y}{\pm x}(X - \overline{X})$$

The regression line of milk can be computed as follow,

$$Y - \overline{Y} = r\frac{\pm y}{\pm x}(X - \overline{X})$$

$$Or, Y - 37 = 0.957\frac{3.097}{4.071}(X - 40.38)$$

$$Or, Y - 37 = 0.728(X - 40.38)$$

$$Or, Y = 0.728X - 29.398 + 37.00$$

$$Or, Y = 0.728X + 7.602$$

This regression line shows that there is positive relationship between the budgeted sales and actual sales of milk. With the help of this line, we can estimate the expected actual sales of milk in coming period.

4.3 Production Plan/ Budget

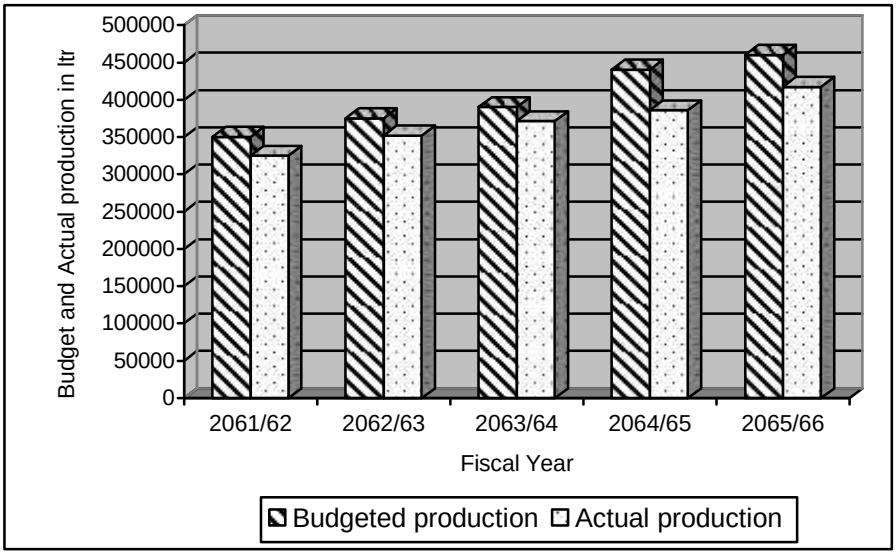
Product: Milk

Table 4.7
Production budget and achievement in units
Product: Milk

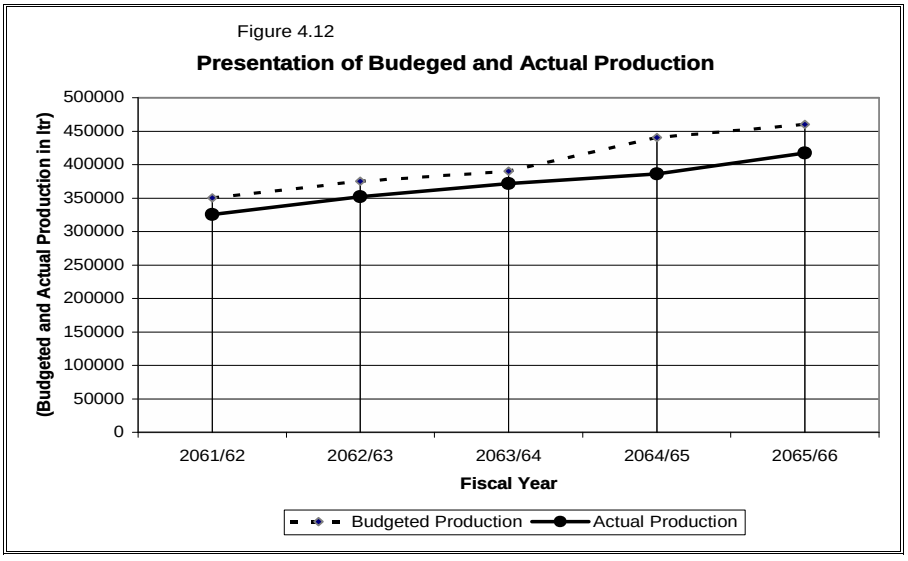
FY	Budgeted production (Target) (in ltr)	Actual Production (in ltr)	Achievement
2061/62	350460	325235	92.80%
2062/63	375215	352186	93.86%
2063/64	390350	371616	95.20%
2064/65	440628	385914	87.58%
2065/66	460365	417235	90.63%
Average			92.02%

The above table explain that the actual production of milk did not meet the budgeted production over the study period. The production achievement of KD in the FY 2061/62 was 92.80%. However it is lightly increased in the year 062/63 and 063/64 but it was decreased by 7.26% and arrive at 87.58% in the FY 2064/65. The average achievement of milk is 92.02%. Budgeted production and actual production are presented in bar diagram below.

Figure 4.11



Budgeted and actual production of milk can be presented in following graph.



The above figure no. 4.12 shows the trend of planned and actual production budget. The graphical presentation indicates that the gap between target production and actual production is not very high but actual production is always below the budgeted sales.

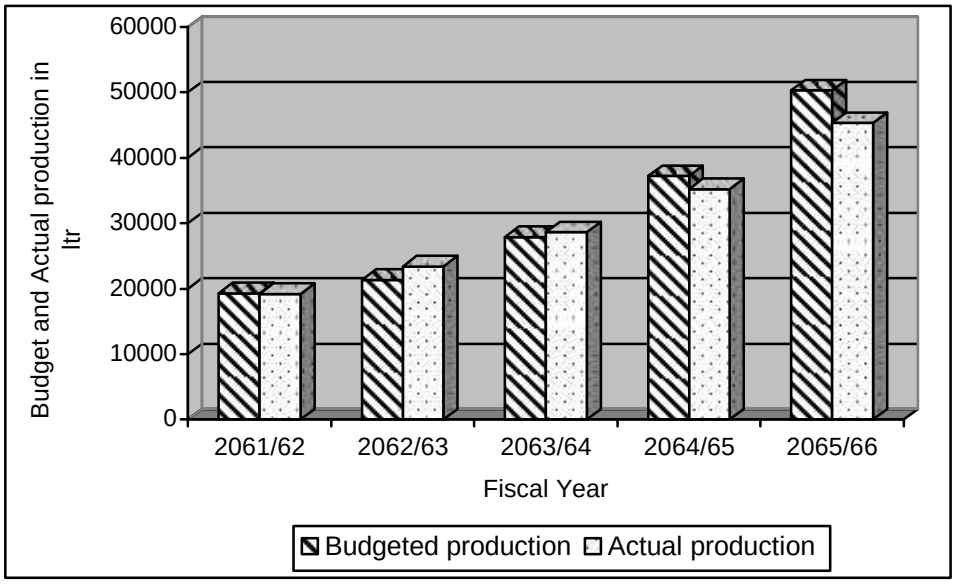
Product: Dahi

Table 4.8
Production budget and achievement in units
Product: Dahi

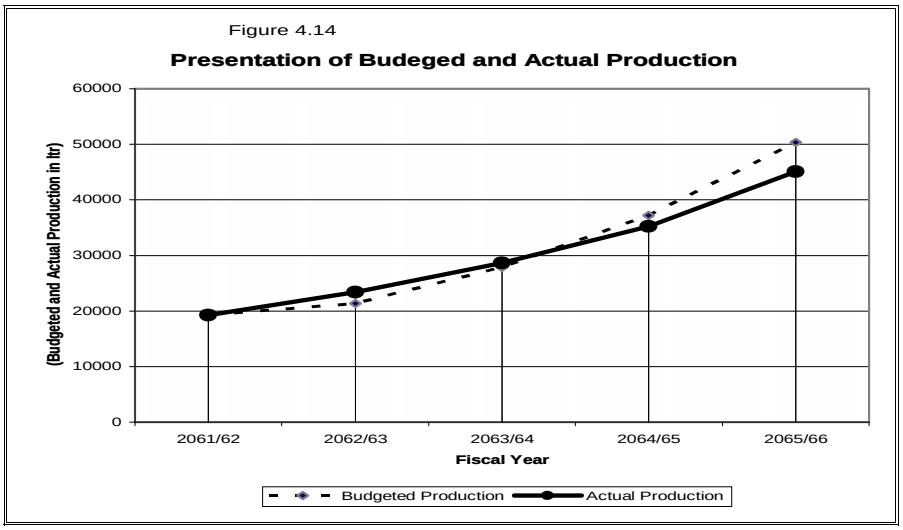
FY	Budgeted production (Target) (in ltr)	Actual Production (in ltr)	Achievement
2061/62	19325	19236	99.54%
2062/63	21340	23425	109.77%
2063/64	27875	28624	102.69%
2064/65	37215	35210	94.61%
2065/66	50316	45114	89.66%
Average			99.25%

The above table explain that the budgeted and actual production of dahi fluctuating over the study period. The production achievement of KD in the FY 2061/62 was 99.54% and it sharply increased by 10.23% in the year 062/63 then again started to fall. The average production achievement of dahi is 99.25%. Budgeted production and actual production are presented in bar diagram below.

Figure 4.13



Budgeted and actual production of dahi can be presented in following graph.



The graphical presentation depicts the trend of planned and actual production budget of dahi. The graph shows the lowest gap is in FY 061/62 and higher gap in 065/66.

Product: Ghee

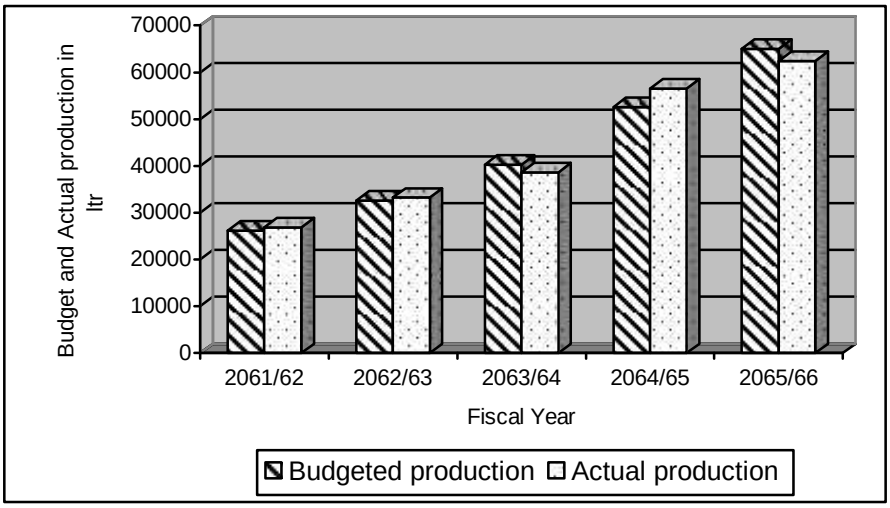
Table 4.9
Production budget and achievement in units
Product: Ghee

FY	Budgeted production (Target) (in kg)	Actual Production (in kg)	Achievement
2061/62	26210	26852	102.45%
2062/63	32640	33225	101.79%
2063/64	40215	38640	96.08%
2064/65	52530	56535	107.62%
2065/66	65025	62416	95.99%
Average			100.79%

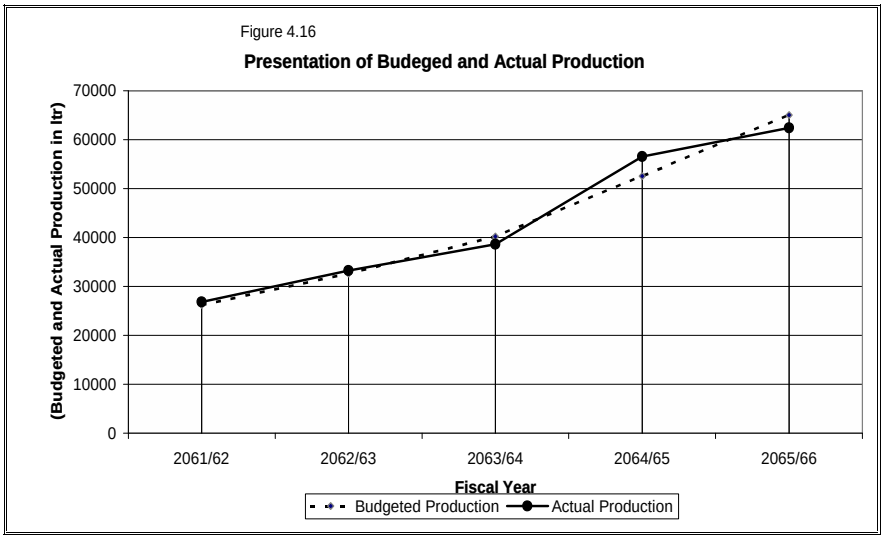
The above table shows that the actual production of Ghee is fluctuating over the study period. The production achievement of KD in the FY 2061/62 was 102.45%. But it is lightly decreased in the year 062/63 and 063/64 but it is sharply increased by 11.54% and reaches to 107.62% in

the FY 2064/65. The average achievement of ghee is 100.79%. Budgeted and actual productions are presented in bar diagram below.

Figure 4.15



Budgeted and actual production of ghee can be presented in following graph.



The above graph shows the trend of production of ghee and its achievement. The graphical presentation indicates that the gap between targeted production and actual production is not very high except in 064/65.

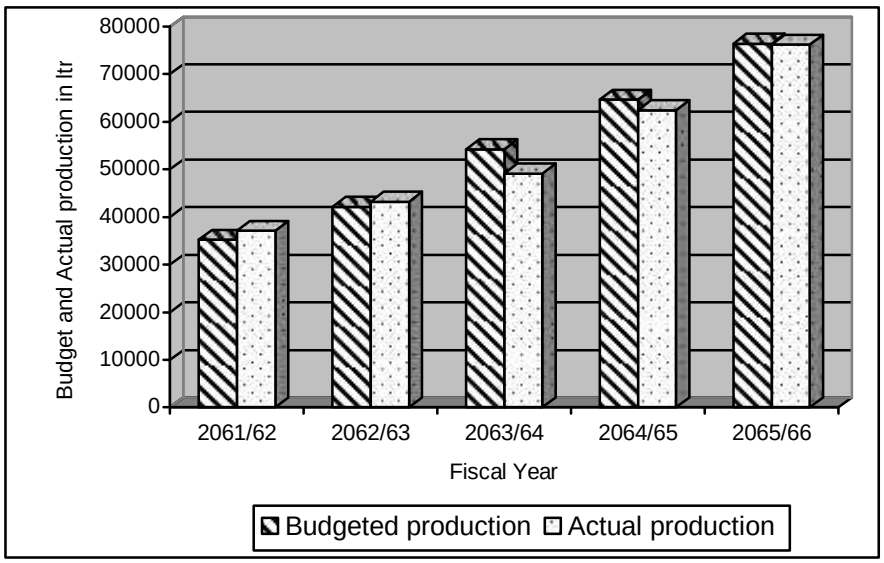
Product: Butter

Table 4.10
Production budget and achievement in units
Product: Butter

FY	Budgeted production (Target) (in kg)	Actual Production (in kg)	Achievement
2061/62	35260	37124	105.29%
2062/63	42145	43227	102.57%
2063/64	54230	49128	90.59%
2064/65	64640	62418	96.56%
2065/66	76415	76236	99.77%
Average			98.95%

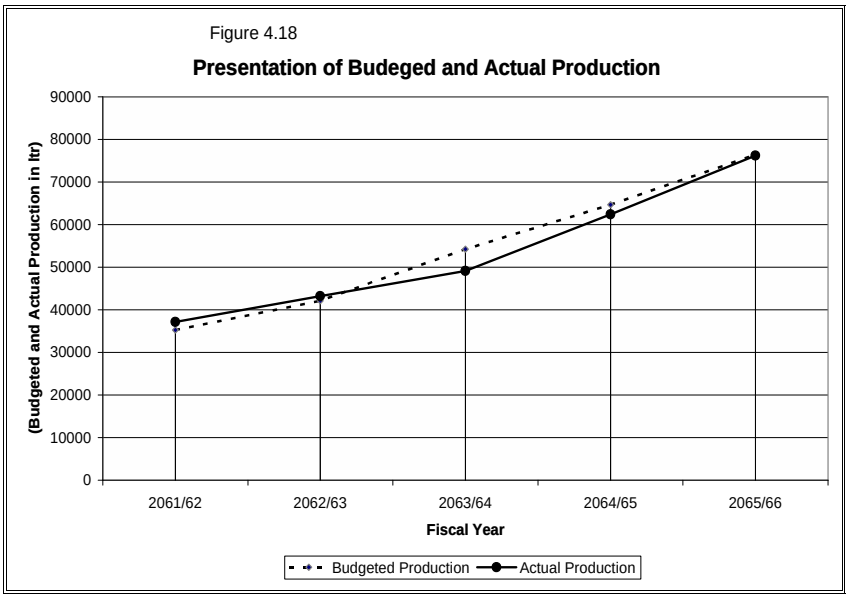
The above table explain that the actual production of butter is fluctuating over the study period. The production achievement of KD was high in the beginning two year. Unfortunately, KD did not achieve its target rest of the year. To some extent there was inefficiency in production. Budgeted and actual productions are presented in bar diagram below.

Figure 4.17



Budgeted and actual production of Butter can be presented in following graph.

Figure 4.18



The above figure no. 4.18 shows the trend of production budget and its achievement. The graphical presentation indicates huge gap in the year 063/64 between target and actual production.

Table 4.11
Statistical Summary of Production budget and achievement

Figure in '0000'

Products	Particular	Budgeted Production	Actual Production
Milk	Mean	40.34	37.04
	S. Deviation (δ)	4.09829	3.10129
	Coeff. Variation (C.V.)	10.16%	8.37%
	Correlation Coefficient	0.965	
Dahi (Yogurt)	Mean	3.12	3.03
	S. Deviation (δ)	1.14193	0.91324
	Coeff. Variation (C.V.)	36.60%	30.14%
	Correlation Coefficient	0.99	
Ghee	Mean	4.33	4.35
	S. Deviation (δ)	1.39356	1.36748
	Coeff. Variation (C.V.)	32.18%	31.44%
	Correlation Coefficient	0.986	
Butter	Mean	5.45	5.36
	S. Deviation (δ)	1.48862	1.40570
	Coeff. Variation (C.V.)	27.31%	26.22%
	Correlation Coefficient	0.987	

4.4 Overhead (Expenses) Budget

Planning and control of expenses are quite necessary to maintain reasonable expenses levels to support the objectives and planned programme of the business entity. Expenses should not focus on reducing expenses but rather on better utilization of limited resources. It should focus on the relationship between expenditures and benefits derived from those expenditures. Thus, the main objective of planning & controlling expenses is to; obtain maximum benefits from expending of given amount of resources or spend lower amount of resources to obtain desired benefits.

Expenses become higher because of breakdowns, inefficient management, fraught employees, faulty machinery tolerance, major repair cost and shortened assets life. Normally overhead expenses include direct materials and direct labour expenses, factory expenses, selling & distribution expenses and administration expenses. Factory expenses are a part of total production cost. It has not directly traceable to specific products and job. It is related with indirect materials, indirect labour and all other miscellaneous factory expenses such as taxes, insurance, depreciation, repairs etc. but it is a problem to separate factory expenses.

Selling expenses affect the potential profit of the firm. It is significant portion of total expenses. It includes all cost related to selling & distribution and delivering of products to the customer. All the expenses other than factory and selling expenses are administrative expenses.

Cost of goods sold is also called production cost. Raw materials, production salary and wages, fuel and lubricant costs, electricity cost, water cost, lab chemical cost etc. are the example of cost of goods sold.

Administrative costs and management costs are those coasts, which are not directly related with production. Administrative costs are salary and wages, allowances and incentives, donation, depreciation, interest etc.

Similarly, selling and distribution costs are those costs, which occur in selling activities of any organization such as transportation costs, promotional cost, advertisement etc.

The costs are segregated under administrative and distribution categories as per the view of KD's staffs, intuition judgments and nature of expenses. Like the transportation cost expenses for administrative purpose are categorized under variable administrative cost and the transportation cost expenses for selling and distribution purpose are categorized under variable selling and distribution cost. Hence transportation cost is segregated as 30% variable administrative and 70% selling and distribution cost. In the same way, telephone charges and miscellaneous expenses are categorized as 60% variable administrative and 40% selling and distribution cost. Salary given to administrative staffs is categorized under variable administrative cost and salary given to sales boy is categorized under variable selling and distribution expenses.

Kathmandu Dairy has no pre estimation of cost. Thus there is not seen the planning of cost. KD has no separate costing department and cost is done and records according to traditional method. Scientific classification of cost i.e. variable, fixed, controllable, uncontrollable, direct, indirect, semi variable, semi fixed etc. is not seen in KD.

By analysing the costing system of KD the cost classification aspect is not adopting, cost separation from the joint production is not practicing and the percentage of each expenses in different operational activities are significantly changing and their amount is consequently increasing. The expenses incurred in collection and purchase cost of raw milk is

significantly increasing in each year. We can observe that there is substantial fluctuation in other expenses of KD. If we stare the total cost structure of KD, it clearly shows that the total expenses have been increasing year by year.

So it has been clear that the management of KD seems to be less sensitive in order to implement expenses control to apply dynamic cost control program efficiently and effectively in respective field.

Fixed Cost Sheet

Table 4.12

(In Amount)

FY / Details	2061/62	2062/63	2063/64	2064/65	2065/66
Factory Insurance Premium	17,957.00	9,365.00	-	-	-
Repair & Maintenance	84,868.08	64,535.78	7,096.20	64,283.68	69,832.68
Total	102,825.08	73,900.78	7,096.20	64,283.68	69,832.68
Increase or Decrease	-	(0.2813)	(0.9310)	(0.3748)	(0.3290)

Source: Audited Report of KD

Administrative Cost

Table 4.13 (In Amount)

FY / Details	2061/62	2062/63	2063/64	2064/65	2065/66
Audit fee	20,000	20,000	20,000	22,283.79	26,513.85
Repair & Maintenance	81,679.72	61,955.36	127,230.26	144,182.58	204,290.72
Rent	31,200	32,400	33,600	35,160	42,800.00
Printing & Stationary	30,9143	37,559	79,472.80	163,808057	174,213.21
Newspaper	-	-	-	-	4,320.00
Donation	26,800	51,475	20.500	3,000.00	5,000.00
Rates & Taxes	37,502	51,350	2,500	6,200.00	6,700.00
Staff uniform	-	-	1,520	0.00	
Medicine & Treatment	43	-	-	360.00	800.00
Director's Remuneration	66,000	66,000	132,000	216,000	268,000.00
Bad debt	-	77,317.50	-	39,609.55	
Cleaning charge	9,931	33,812	18,800	18,000	17,500.00
Guest Expenses	-	-	22,101,77	12.311	11,800.00
Lab Expenses	-	-	2,517,74	5,816	9,848.00
Lab Expenses	-	-	4,605.00	-	5,000.00
Insurance of Staff	-	-	21,096.39	-	24,242.21

VAT on Non VAT able Goods	-	-	4,605.00	-	
TDS paid for 059/60	-	-	-	19,090	21,000.00
Expenses Written Off	-	-	-	36,263.51	42,240.00
Staff Bonus	-	-	-	63,096	81,096.00
Depreciation	991,388.98	1,095,602.45	1,117,656.49	1,272,992.55	1,484,029.30
Total	1,295,459	1,527,471	1,603,600	2,058,173.55	2,490,593.00
Increase/Decrease		0.1791	0.2379	0.5888	0.9226

Source: Audited Report of KD

In the above table no. 4.13, it is observed that the fixed cost of sales of KD is more in other tears than the FY 2061/62 as taken the base year. The fixed cost is highest in the FY 2061/62 and it may be attributed to the increase in expenses of repair & maintenance and factory insurance premium. Fixed administrative cost is in increasing trend over the study period. The fixed administrative cost s highest in the FY 2065/66 due to more expenses in repair & maintenance, printing & stationary, director's Remuneration, staff Bonus, depreciation. The lowest fixed administrative cost is in the FY 2061/62 over the study period. Fixed distribution cost is increased compared to the FY 2061/62 taken as a base year. It is highest in the FY 2065/66 due to the more expenses in advertisement. It can be concluded that KD is not using effective planning to control the fixed costs.

4.5 Raw Material Budget

Sufficient raw materials will have to be available to meet production needs and to provide for the desired ending raw materials inventory. However, some quantity of material requirement will already exist in the form of beginning raw materials inventory. The remainder will have to be purchased from suppliers. Raw materials are major inputs in every production process. A comprehensive PPC program includes planning and controlling of raw materials and components used in the manufacturing of finished goods.

Raw materials budget is developed after the completion of production budget. Raw material budget is co-ordination of the required raw materials and parts and inventory level. It should be clearly shown that when and how much the materials are needed for production process and when and how much materials should be purchased. It is noted that raw materials should be purchased by considering the raw materials inventories.

Raw material to be purchased = raw materials requirement + ending Inventory – opening inventory.

Milk is the basic raw materials for KD to produce milk and dairy products. Milk is perishable item and it cannot be stored for a long time. Raw milk is purchase from farmer of different places while milk powder is purchase from different supplier inside or outside the country. Milk powder is the second major raw material of Kathmandu Dairy.

Kathmandu Dairy has not prepared the raw material purchased budget. Kathmandu Dairy mostly depends upon the collection of milk but has not implemented any effective and scientific program to the farmers to improve animal husbandry nor have milk collection centres been expanded to rural areas. So thousand of litres of milk which is been producing in these areas are being wasted. So, KD should bring the program to improve animal husbandry, animal health, fodder development, disease controlled, breading etc. There are invariantly some losses during milk collection.

Others raw material of KD are skimmed milk powder, sugar, spice, lubricants, polythene pouches and paper for packaging, chemicals, detergents and so on. The following table shows with figure that the KD engaged for purchasing the raw materials for five year period. These costs are views as variable cost of KD for the manufacturing.

Table 4.14

FY / Details	2061/62	2062/63	2063/64	2064/65	2065/66
Purchase of milk powder	685,675.00	1,957,819.00	4,300,765.75	3,078,215.98	3,535,451.13
Raw milk	9,974,762.00	10,406,427.00	10,340,750.00	13,362,004.00	13,512,134.00
Sugar	100,200.00	500,875.00	511,000.00	200,319.24	348,216.33
Chemicals	80,120.18	58,425.00	76,482.00	65,423.11	72,423.82
Spice	265,482.07	624,180.45	358,662.42	720,070.37	809,521.74
Ice-cream	14,400.00	111,200.00	49,200.00	110,400.00	148,480.00
Packing materials	1,700,827.00	983,195.00	1,678,382.80	1,610,138.11	1,720,340.20
Cheese	-	-	37,540.00	40,865.00	70,382.00
Purchase of Lubricant	-	357,784.88	-	-	
Fuel consumption for production	277,758.33	0.00	328,696.99	313,934.77	428,816.20
Electricity	240,273.63	236,748.34	409,475.18	521,963.59	598,468.03
Wages and labor charges	440,470.00	540,000.00	436,500.00	436,500.00	436,500.00
Water charges for production	78,891.13	123,114.27	123,515.15	165,642.11	178,426.20
Total	13858859.34	15899768.94	18650970.29	20625476.28	21859159.65
Increase or Decrease		0.1473	0.3458	0.4883	0.5773

The above table no. 4.14 reveals all variable costs, which are used to product diary products in terms of cost of sales, administrative or operating costs and selling and distribution costs. It also depicts the trend of cost. In the above table, FY 2061/62 is taken as a base year. The cost of sales is in increasing trend. The highest increment is in FY 2065/66 by 0.5773. The reason of increase in cost may be attributed to high increase in purchase of milk powder, raw milk, sugar etc. To reduce the cost of sales, KD should try to control in wastage of raw materials, milk powder expenses, and ice-cream con. In FY 2061/62 administrative cost that is in increased trend. The highest administrative cost is in FY 2065/66 and is lowest in FY 2061/62. The reasons for increase in administrative cost are higher expenses in telephone charges, transportation and various miscellaneous items. Similarly, selling and distribution expenses cost is also in increasing trend over the study period. The highest selling and distribution cost is in

FY 2065/66 and is lowest in FY 2061/62. it shows that KD doesn't have control over costs which proves that it is not using effective planning tools for cost control.

4.6 Direct Labour Budget

Direct labour budget is the fourth step of PPC. Direct labour requirements must be computed so that the company will know whether sufficient labour is available to meet production needs. By knowing in advance, the company can develop a plan to adjust the labour force as the situation may require. Direct labour requirements can be computed by multiplying product to be produced in each period by the number of direct labour-hours required to produce a unit. Many different types of labour may be involved. If so, then the computation should be made of the type of labour needed.

Direct labour budget is prepared according to the needs of organization and adopting some methods of other budgets. Direct labour specifies about the man power requirement and man power planning is the subject of personnel management. Effective and scientific personnel management starts from shortage of personnel, requirement, and enrolment to job retirement. Personnel management is not a easy task for the organization. However, the well planned manpower is the wealth of the organization so that the comprehensive profit plan includes the labour budget.

Kathmandu Dairy has not adopted the systematic approach to planning of manpower requirement. KD has both types, fixed salaried and daily wage, of employee. Most of the employees are fixed salaried. The employee who are fixed, are paid on the basis of working day or time and contract and daily wage basis employees are paid on the basis of piece of work of hourly basis. So, to some extent, the productivity of fixed employee is neglected and KD has no effective approach to increase the productivity of its employees.

Labour is generally classified as direct and indirect labour. The technique of developing labour budget firstly requires separation of direct and indirect labour. Direct labour comprises the entire worker's who were directly on specific productive output. Hence, as with direct material costs, direct labour costs are directly traceable to output. The labours who work or support productions indirectly are classified as indirect labour. Indirect labour cost is a part of a manufacturing overhead budget. Direct labour requirement is usually expressed in labour hour. Labour hour requirement will be directly proportional to the planned output. The calculation of labour hour requirement per unit of finished product will be made on engineering measurement. Concepts of time and motion study will be helpful in such occasion. After developing labour hour requirement one has to calculate the available manpower. To adjust the required labour hour, organization may hire or appoint the additional requirement if availability is less than requirement or dismiss or fire when availability is more than requirement.

KD has not adopted this approach and has not practiced in preparing per hour labour cost of finished products. In the absence of this information direct labour budget can not be develop in this study.

4.7 Capital expenditure budget

Capital budgeting involves the entire process of planning and controlling the expenditures for expansion and contraction of investment in operating assets with returns that are expected to extend beyond one year. A capital expenditure is the use of fund to obtain operational assets that will help to earn future revenues or reduce future costs. Capital expenditure projects involve large amounts of cash, other resources and debt that are tied up for relatively long period of time. Capital expenditures are investments because they require the commitment of resources today to receive higher economic benefits in the future.

The capital expenditure budget enables executive management to plan the amount of resources that should be invested in capital additions to satisfy customers' demands and ensure growth. It is essential for management to avoid idle operating capacity, excess capacity and investment in capacity that will earn less than an adequate return on the fund invested. Capital expenditure budget has its time dimension. It must include a strategic (long term) and tactical (short term) capital expenditure budget.

KD does not prepared capital expenditure budget. It prepares short term budget. According to the requirement, fixed assets can be purchased and its decision generally is made by executive director in participation of other related high officials considering the allocated amount. Hence, it can be said that there is no practice of preparing capital expenditure budget in KD.

Following table shows the total capital investment on assets up to 063/64 in KD.

Table 4.15

s.n.	Particular	2061/62	2062/63	2063/64	2064/65	2065/66
1	Fixed assets (Gross)	9,817,787.37	11,065,284.14	12,174,104.08	14,372,753.71	18,492,436.91
2	Less: dep^{n}	2,653,016.88	3,748,919.34	4,866,275.83	6,139,268.38	7,623,297.67
3	Net Value	7,164,770.49	7,316,664.80	7,307,828.25	8,233,485.33	10,869,139.23

In the above table, investment on fixed assets is in increasing trend over the study period. It may be attributed to the increase in expenses for machinery and equipment. Investment on fixed assets is highest in the FY 2065/66 considering the depreciation value. There is not seen the investment techniques and criteria before purchasing the fixed assets. KD has not considered the return on assets where to invest a larger amount. KD purchases fixed assets as per the need of the factory. Therefore KD has not followed the BEP, ARR, NPV and IRR etc. technique before investment.

4.8 Cash Budget

Cash budgeting is an effective way to plan and control the cash flows, assess cash needs, and effectively use excess cash. The primary objective of cash flow is to plan the liquidity position of the company as a basis for determining future borrowings and future investment. A cash budget shows the planned inflows, outflows, and ending position by interim periods for a specific time period. It is directly related to other plans such as the sales plan, account receivable and the expenses budget and capital expenditure budget. Cash is the most liquid form of assets.

It is one major responsibility of management to plan, control and safe-guard of the cash of an organization. The main source of cash inflow is sales, sales of assets and loan and advance, borrowing etc. Similarly cash outflows are payment of cash/credit purchase, selling and administrative expenses, expenses of fixed assets etc. KD has not prepared the cash budget. Sales revenue is the main source of cash in KD.

Following table represents the cash position of KD. Table 4.16

S.N.	Particular	2061/62	2062/63	2063/64	2064/65	2065/66
1	Cash & Bank Balance	884,077.05	138,942.56	416,196.14	465,030.42	945,518.77

Above presented cash and bank balances are the ending values of each year and it shows that there is no systematic planning of cash. The cash balance is fluctuates widely every year.

4.9 Profit & Loss Account (Income Statement) of KD.

Profit and loss account is a statement prepared to find out the net income or net loss during the given period. It is prepared after preparing the all functional budget at the end of the each fiscal year. The planned income

statement is one of the key schedules in the completion of the profit plan. It is the document that tells how profitable operations are anticipated to be in the forth-coming period. After it has been prepared, it stands as a benchmark against which subsequent company performance can be measured. The income statement will be complete after addition of the interest expense, which is computed after the cash budget, has been prepared. The profit and loss position of Kathmandu Dairy during study period is presented below;

Kathmandu Dairy Pvt. Ltd Babarmahal , Kathmandu
Income statement
For the Year 01/04/2061 To 32/03/2066

Table 4.17

Details	2061/62	2062/63	2063/64	2064/65	2065/66
Sales	16,475,121.45	18,547,112.77	19,682,040.94	25,657,088.04	29,459,831.71
Variable Cost					
Cost of sales	14,011,478.70	15,136,313.03	16,031,297.50	21,198,374.91	23,246,639.91
Administrative Cost	268,165.51	412,420.87	622,920.69	704,003.63	749,312.36
Selling and distribution cost	220,908.48	359,725.98	409,745.36	549,532.83	628,253.38
Total variable cost	14,500,552.69	15,908,459.88	17,063,963.55	22,451,911.37	24,624,205.65
Contribution Margin	1,974,568.76	2,638,652.89	2,618,077.39	3,205,176.67	4,835,626.06
Fixed cost					
Cost of sales	102,825.08	73,900.78	7,096.20	64,283.68	102,646.23
Administrative Cost	1,332,759.70	1,886,478.31	1,826,233.45	2,271,391.00	3,413,023.84
Selling and distribution cost	170,823.11	192,850.19	239,265.92	307,161.79	508,996.01
Total fixed cost	1,606,407.89	2,153,229.28	2,072,595.57	2,642,836.47	4,024,666.08
Less: Other Expenses	7,901.03	15,550.88	0.00	68,616.76	
Net fixed cost	1,598,506.86	2,137,678.40	2,072,595.57	2,574.219.71	4,024,666.08
Profit	376,061.90	500,974.49	545,481.82	630,956.96	810,959.98
Net profit margin (%)	2.28	2.70	2.77	2.46	2.75

Source: Audited Report of KD

The above presented income statement revels that KD has generated reasonable profit each year and achieve highest profit 810959.98 in the year 065/66. The income statement shows the net profit margin of KD over the study period is fluctuating trend and the highest margin ratio is 2.77 in the year 063/64 and lowest is 2.28 in the year 061/62.

4.10 Balance Sheet (Position Statement)

Balance sheet is a statement which is prepared to find out the financial position during a given period. It is prepared at the end of each fiscal year. The planned balance sheet is developed by beginning with the current balance sheet and adjusting it for the data contained in the other budgets. The balance sheet is the final document in the master budget and even in financial record keeping.

Table 4.18

Kathmandu Dairy Pvt. Ltd.
Babarmahal, Kathmandu
Balance - Sheet

Equities and Liabilities	As On 32.3.2062	As On 32.3.2063	As On 32.3.2064	As On 32.3.2065	As On 32.3.2066
	(Nrs.)	(Nrs.)	(Nrs.)	(Nrs.)	(Nrs.)
Shareholders Fund					
Share Capital	8,000,000.20	8,000,000.20	8,000,000.20	8,000,000.20	8,000,000.20
Profit and Loss	1,372,493.04	1,765,758.04	2,165,544.39	2,643,157.16	2,551,276.30
	9372,493.07	9,765,758.04	10,165,544.39	10,643,157.16	10,551,276.30
Loan fund; Secured					
Loan from NIDC against Collator of Loan	3,000,000.00	1,896,167.00	1,372,536.00	1077,676.00	
Hire Purchase Loan From SCB					2,778,912.21
Sub Total	3,000,000.00	1,896,167.00	1,372,536.00	1,077,676.00	2,778,912.21
Total Source of Funds	12,372,493.07	11,661,925.04	11,538,080.39	11,720,833.16	13,330,188.51

Assets					
Concurrent Assets					
Fixed Assets-Grass	9,817,787.37	11,065,284.14	12,174,104.08	14,372,753.71	18,492,436.91
Depreciation	2,653,016.88	3,748,919.34	4,866,275.83	6,139,268.38	7,623,297.67
	7,164,770.49	7,316,664.80	7,307,828.25	8,233,485.33	10,869,139.23
Current Assts					
Raw Material & other Stocks	1,249,520.07	1,551,515.82	3,850,528.52		
Finished Stock	1,791,233.08	2,252,693.24	2,734,427.15		
Inventories in Hands				6,060,239.05	2,769,712.14
Trade Debtors	1,678,962.23	84,436.34	661,181.52	943,095.64	1,160,094.25
Loans Advance & Debtors	145,734.00	1,084,450.66	754,723.13	595,500.02	595,500.02
Corporate Tax Receivable				7,905.80	
Vat Receivable	31,893.39				65,053.83
Cash & Banking Balance	884,077.05	138,942.56	416,196.14	465,030.42	945,518.77
Pre-paid Expenses					70,455.27
Sub-total	5,781,419.82	5,122,038.62	8,417,056.46	8,071,770.93	5,606,334.28
Less; Current Liabilities					
Sundry Creditors	505,762.45	735,251.40	4,108,326.87	4,419,191.10	2,899,138.98
Income Tax Provision	67,934.79				
Vat Payable		26,287.00	8,160.00	51,836.00	
Accrued Interest but Not due		15,240.00			
Corporate Tax Payble					10,275.02
TDS Payable			3,000.00	300.00	14,775.00
Provision for expenses			67,317.44		
Bonus Provision				63,096.00	81,096.00
Advance from Customers				50,000.00	140,000.00
Sub Total	573,697.24	776,778.35	4,186,804.31	4,584,423.10	3,145,285.00
Net Working capital	5,207,722.58	4,345,260.25	4,230,252.15	3,487,347.83	2,461,049.28
Total Application of funds	12,732,493.07	11,661,925.05	11,538,080.39	11,720,833.16	13,330,188.51

Source: Audited Report of KD

4.11 Identification of cost variability.

Cost variability is considered as a technique for planning and controlling of cost. Cost variability is the cost behaviour. So cost variability must be identified for cost planning and control. All cost occurred in the industry should be separated into following categories according to their behaviours;

1. **Variable cost:** variable cost are the costs that tend to vary in direct proportion and same direction to changes in proportion activity, sales activity or some other measures of volume or cost driver. The cost of these inputs increase/decrease in proportion to increase/decrease in volume or cost driver. Variable expenses are activity based because they are incurred as a direct result of output, activity or work done. If the output doubles, variable cost will also double and vice-versa.

2. **Fixed cost:** Fixed costs are associated with those inputs, which do not vary with changes in the volume of output or activity within a specified range of activity or output. Fixed costs thus remain constant whether the activity increases or decreases within a relevant range.

3**. Semi variable costs:** All costs, other than fully variable and fixed, which are neither perfectly variable not absolutely fixed in relation to volume changes, are semi-variable costs. Semi-variable costs are also known as mixed costs as they consist both of fixed costs and variable costs.

4.12 Cost volume profit analysis

Profit volume ratio is the relationship between the contribution margin and sales revenue. The two factors profit and volume are interconnected and dependent with each other. Profit depends upon sales; selling price to a

greater extent will depend upon the volume of production. It is calculated by dividing contribution margin by sales.

We have, $\text{Profit Volume Ratio} = \frac{\text{Contribution Margin}}{\text{Sales}}$

Calculation of contribution margin table 4.19

Details	2061/62	2062/63	2063/64	2064/65	2065/66
Sales	16,475,121.45	18,547,112.77	19,682,040.94	25,657,088.04	29,459,831.71
Variable Cost					
Cost of sales	14,011,478.70	15,136,313.03	16,031,297.50	21,198,374.91	23,246,639.91
Administrative Cost	268,165.51	412,420.87	622,920.69	704,003.63	749,312.36
Selling and distribution cost	220,908.48	359,725.98	409,745.36	549,532.83	628,253.38
Total variable cost	14,500,552.69	15,908,459.88	17,063,963.55	22,451,911.37	24,624,205.65
Contribution Margin	1,974,568.76	2,638,652.89	2,618,077.39	3,205,176.67	4,835,626.06
Fixed cost					
Cost of sales	102,825.08	73,900.78	7,096.20	64,283.68	102,646.23
Administrative Cost	1,332,759.70	1,886,478.31	1,826,233.45	2,271,391.00	3,413,023.84
Selling and distribution cost	170,823.11	192,850.19	239,265.92	307,161.79	508,996.01
Total fixed cost	1,606,407.89	2,153,229.28	2,072,595.57	2,642,836.47	4,024,666.08
Less: Other Expenses	7,901.03	15,550.88	0.00	68,616.76	
Net fixed cost	1,598,506.86	2,137,678.40	2,072,595.57	2,574.219.71	4,024,666.08
Profit	376,061.90	500,974.49	545,481.82	630,956.96	810,959.98

Table 4.20:

Profit Volume Ratio

FY	Sales Amount	Contribution Margin (Rs.)	P/V Ratio
2061/62	16,475,121.45	1,974,568.76	0.1199
2062/63	18,547,112.77	2,638,652.89	0.1432
2063/64	19,682,040.94	2,618,077.39	0.1330
2064/65	25,657,088.04	3,205,176.67	0.1249
2065/66	29,459,831.71	4,835,626.06	0.1641

Source: Audited Report of KD

The above table no. 4.12 shows the profit volume ratio of KD over the study period, which is in fluctuating trend. The highest P/V Ratio is 0.1641 in the FY 2065/66and lowest is 0.1199 in the FY 2061/62.

4.13 Break Even Analysis

Break-even analysis is the most widely known form of the cost volume profit analysis. Therefore, cost volume profit analysis is also called break-even analysis.

The break-even point is used under Break-even analysis. Break Even Pint is the level of activity at which total cost equals to total revenue. In other words, break-even point is a point of “no profit no loss”. If the sales or production is higher than the break-even point volume, there will be profit and if the sales or production is less than BEP sales, there will be loss. Break-even point can be determined by using these methods.

Algebraic or Formula Method

Graphic or Chart Method

a. Algebraic or Formula Method

$$\text{BEP} = \frac{\text{Total Fixed Cost}}{\text{Profit Volume Ratio}}$$

Table 4.21

Break Even Point of the Year

FY	Fixed Cost	P/V Ratio	BEP (Rs.)
2061/62	1,598,506.86	0.12	13,337,390.52
2062/63	2,137,678.40	0.14	15,025,758.98
2063/64	2,072,595.57	0.13	15,581,247.15
2064/65	2,574.219.71	0.12	20,606,346.71
2065/66	4,024,666.08	0.16	24,540,646.83

Source: Audited Report of KD

The BEP of KD is shown in table no. 4.13 and it is in increasing trend over the study period of 5 years. The highest BEP of KD is Rs. 24,540,646.83in the FY 2065/66 and lowest BEP is Rs. 13,337,390.52 in the FY 2061/62.

4.14 Major Findings of the Study

The major findings of the study derived from the analysis of PPC and interpretation of secondary data are summarized as follows:

Demand forecasting is the first managerial function on the basis of which sales plan, material plan etc. will be formulated. For the smooth operation the organization, demand forecasting is essential. But there is no practice of making demand forecast neither for short run nor for long run. From the analysis of data it is found that there is no practice of making demand forecast neither for short run nor for long run.

Total budgeted sales have not been achieved during the study period as the highest achievement of actual sales on budget sales is only 95.40 percent in FY 2063/64 whereas the lowest one is 90.09 percent in FY 2065/66.

Since KD does not prepare sales forecast, it prepares short run sales plan. In the case of milk, the achievement is always below then target. On the average its achievement is 91.81% of the target. In the case of Dahi, the achievement is fluctuating between90.35% to104.43%. On the average its achievement is 97.51% of the target. In the case of ghee, the level of achievement is also fluctuating between 93.34% to 104.01%. In the case of butter, achievement is fluctuating highly. Its highest achievement is107.50% in the year 059/60. Actual sales are expected to change along with the target sales in the same direction. In the other words there is positive correlation between target and achievement.

In the case of production budget, KD does not have systematic approach or tentative plan to optimize production efficiency. However KD did not achieve its target production in milk. In the case of milk, the range of achievement is between 87.58% to 95.20 of the target. On the average achievement is 92.02% of the target. In the case of Dahi, the achievement is fluctuating over the year and highest in the year 062/63 which is 109.77% and the lowest in the year 064/65 which is 94.61% its average

achievement is 99.25%. Similarly the average achievement of Ghee is 100.79% and which is the highest achievement than other products of KD. KD achieved the target in all the year except in 061/62 which is 96.08% only. In the case of Butter, the average achievement is 98.95% and target is also fluctuating over the year. The range of achievement of is 90.59% in the year 063/64 to 105.29% in the year 061/62. There is positive correlation between target and achievement for all the products.

KD is using the traditional account system. Fixed, variable, direct, indirect, semi-variable, semi-fixed, controllable, uncontrollable etc. are not seen in KD.

KD has prepared direct labour budget only bases on technical and administrative group. It has not practiced the preparation of per-hour unit labour cost of finished goods. Therefore it does not know how much manpower is required for a particular piece of work.

KD has not prepared the raw material budget. It collets milk from farmer and collection centre as per requirement. KD also purchased milk powder from the supplier in the lack of raw milk. General trend of milk collection is increasing with some fluctuation.

KD does not prepared capital expenditure budget. It prepares short term budget. Fixed assets can be purchased according to requirement. Capital investment on fixed assets up to f/y 2065/66 is Rs.18492436.91.

The highest BEP of KD has been found Rs. 24540646.6 in FY 2065/66 and lowest BEP is Rs.13337390.52 in FY 2059/60. There is increasing trend in BEP, which increases the more challenges to increase the sales in the company.

The company is not considering about margin of safety. KD has low margin of safety, which is not in satisfactory level because actual sales is slightly greater than BEP sales.

The company does not seem applying the effective managerial tools “Profit planning and controlled” for controlling its activity.

The company has not prepared flexible budget to provide expense plans adjusted to actual output for comparison with actual expenses in periodic performance report.

KD has not practiced cost volume profit analysis tools for profit planning and the company has not any policy for using CVP tools in coming fiscal years.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary and conclusions derived from analysis of the study. The study was conducted to find out the application of profit planning and control of KD with respect to the movement of various financial indicators, tentative external events and some other factors. The chapter consists of three sections; the first section provides the summary of the study; the second section draws the conclusion of the study. Finally, the third section proposes recommendations to solve the problems observed on the basis of the findings.

5.1 Summary

From the analysis of financial and statistical indicators of KD, the researcher has been able to draw certain summary. Based on the data provided by the concern company, the above analysis has been made. And based on upon this analysis; the following summary can be made.

KD does not make demand forecast neither for short run not for long run. It is found that exponential smoothing method of demand forecasting also provides comparatively better result. It is so because there is minor different between actual and projected sales.

KD does not make strategic plan but it prepares sales plan for upcoming year for its major products which is usually called budget. The time period covered by the budget is one year, which is detailed by interim periods.

As regard the achievement of target of production, there is a mixed scenario. The level of achievement percentage is fluctuating year after year.

For a manufacturing organization, purchased budget is essential. It helps to inform the suppliers about the demand of organization. But KD does not make purchase budget.

There is no practice of preparing labour budget and overhead budget in KD. It does not contain information on labour time and labour expenses.

KD doesn't prepared capital expenditure budget. Fixed assets are purchased as per needed.

KD does not prepared flexible budget to provide expenses plans for the tactical profit plan.

KD has excess idle capacity throughout the study period. Excess idle capacity in the long run leads to failure of the organization.

KD is running slightly greater than break even point. Its profitability situation can improve by reducing per unit cost and increasing the revenue with greater mark-up.

There is no system of preparing monthly or yearly performance reports in KD. It prepares monthly progress report on ad hoc basis.

5.2 Conclusion

Industrialization is the essential thing to improve the economic condition of the nation. Furthermore, industries and business enterprises are fundamental thing of economic development. Without development of industrialization, it is not possible to develop the nation. Industrialization also helps in advancement and modernization of science and technology. Thus industrialization was wide prospects in under develop country like Nepal than agriculture even though, the contribution of agricultural sector in economic activities in Nepal can't be under estimated. It has played a vital role in economic scenario.

In the contest of Nepal the importance of such agro-based industries are increasing rapidly with the advancement of the country. Such industries have been proved as the backbones of the economic strengthen of the nation and they are the indicator of the economic development. But also these sectors have not covered the large area in out country as the policy of the government was not clear in panchayat period.

Kathmandu Dairy is an agro-based company running in Nepal with a view to provide hygiene milk and milk products to the urban consumers at most reasonable price and this research is related with the application of profit planning and control in this company. Profit planning has been found unsystematic and traditional way in this company. There is no plan and policies like production plan, sales plan and other operating plan. The company has not utilized its full capacity because of the lack of raw material, inefficiency of management and lack of skilled production specialist. There is not perfect sales policy or sales planner; as a result the company is not able to meet the largest sales. The top-level management makes the decisions and policies. Target sales are always greater than actual sales. The major problem faced by the company is increase in the variable operating cost because it has adopted neither the cost control system nor the systematic and scientific plan for classification of cost. KD would be beneficial by the application of systematic PPC programme to reveal weaknesses, inefficiencies, deviations, subsequent bottlenecks, and remove the cloud of uncertainty.

5.3 Recommendations

The findings of this study may provide important information for those who are concerned directly or indirectly with the profit planning and control activities. Thus, the following recommendations can be outlined.

KD should start to make demand forecast both for short-run (tactical) and long run (strategic) considering its nature of products and market. KD is suggested not to apply complex method of demand forecasting such as econometric but simple technique like time series supported by managerial judgement can give satisfactory result.

KD is suggested to prepare tactical and strategic budget for all major activities, like sales, production, purchase, labour, capital expenditure etc.

KD is suggested to break present sales plan into monthly or quarterly basis. It helps to consider seasonal fluctuations.

Production budget should be prepared by interim times periods. Such production budget will help industry to plan necessary raw materials, labour and other essential productions factors at appropriate time.

The books of accounts should be prepared on scientific basis. It must be able to show fixed cost, variable cost etc. at different stage of processing. So, it is recommended to follow the segregation method either high low point or least square method for finding correct variable cost and fixed cost.

Direct labour cost should be calculated based on direct labour budget. Wage payment should be revised and effective program should be initiated to improve the productivity of labour. Reward and punishment system should be executed on the basis of work performance.

KD is suggested to prepare purchase budget, overhead budget and flexible budget to control the unproductive expenditures and payments.

It is suggested to the KD for preparing the capital expenditure budget in detail and discounted cash flow technique can be applied for evaluation.

KD should follow the new business strategies for exploring the economic, effective and efficient resources and improving the quality of working life of its employees.

KD should try to use optimum capacity.

Cost control & reduction is the effective way to increase the company's profitability. Therefore cost control & reduction technique should be considered for each responsibility centre.

The profit margin of the KD is very low, where as the operating ratio is too high. Similarly, the variable cost has been found very large in KD, which increases in BEP amount. So, the company should reduce the variable cost by searching the economic resources of material and using the advance technology in production.

It is suggested to KD for depth analysis of its strength and weakness. It should grab the opportunity from its strength and try to correct its weakness.

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APPENDIX - I

Calculation of Mean, Standard Deviations and C. V. & Correlation

Fiscal Year	Budgeted Sales (X)	Actual Sales (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	35.26	32.48	-5.12	-4.52	26.21	20.43	23.14

2062/063	37.46	35.19	-2.92	-1.81	8.53	3.28	5.28
2063/064	38.97	37.12	-1.41	0.12	1.99	0.01	-0.17
2064/065	44.24	38.53	3.86	1.53	14.90	2.34	5.91
2065/066	45.97	41.68	5.59	4.68	31.25	21.9	26.16
N = 5	ΣX= 201.90	ΣY= 185.00	Σx= 0	Σy= 0	Σx^2= 82.88	Σy2= 47.96	Σxy= 60.32

Here, Budgeted Sales (Target) = X

Actual Sales = Y

Calculation for milk *(Figure in Ltr. '0000')*

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Sales,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{201.09}{5}$, = 40.38

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{82.88}{5}}$, = 4.07136

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{4.07136}{40.38}\times 100$, = 10.08%

For the Actual Sales,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{185.00}{5}$, = 37.00

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{47.96}{5}}$, = 3.09709

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{3.09709}{37.00}\times 100$, = 8.37%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{60.32}{\sqrt{82.88\times 47.96}}$, = 0.957

Calculation of Probable Error:

P.E. (r) = $0.6745\times\frac{1-r^2}{\sqrt{n}}$, $0.6745\times\frac{1-(0.96)^2}{\sqrt{5}}$, = 0.0

Calculation for Dahi (yogurt) *(Figure in Ltr. '0000')*

Fiscal Year	Budgeted Sales (X)	Actual Sales (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	1.84	1.88	-1.25	-1.08	1.56	1.17	1.35
2062/063	2.14	2.24	-0.95	-0.72	0.90	0.52	0.68
2063/064	2.83	2.74	-0.26	-0.22	0.07	0.05	0.06
2064/065	3.68	3.46	0.59	0.5	0.35	0.25	0.30
2065/066	4.96	4.48	1.87	1.52	3.50	2.31	2.84
N = 5	ΣX= 15.45	ΣY= 14.80	Σx= 0	Σy= 0	Σx^2= 6.38	Σy2= 4.30	Σxy= 5.23

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Sales,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{15.45}{5}$, = 3.09

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{6.38}{5}}$, = 1.12960

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{1.12960}{3.09}\times 100$, = 36.56%

For the Actual Sales,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{14.80}{5}$, = 2.96

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{4.30}{5}}$, = 0.9274

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{0.9274}{2.96}\times 100$, = 31.33%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{5.23}{\sqrt{6.38\times 4.30}}$, = 0.99

Calculation of Probable Error:

P.E. (r) = $0.6745\times\frac{1-r^2}{\sqrt{n}}$, $0.6745\times\frac{1-(0.99)^2}{\sqrt{5}}$, = 0.0

Calculation for Ghee *(Figure in kg. '0000')*

Fiscal Year	Budgeted Sales (X)	Actual Sales (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	2.66	2.56	-1.66	-1.64	2.76	2.69	2.72
2062/063	3.25	3.16	-1.07	-1.04	1.14	1.08	1.11
2063/064	3.98	3.79	-0.34	-0.41	0.12	0.17	0.14
2064/065	5.25	5.46	0.93	1.26	0.86	1.59	1.17
2065/066	6.46	6.03	2.14	1.83	4.58	3.35	3.92
N = 5	ΣX= 21.60	ΣY= 21.00	Σx= 0	Σy= 0	Σx^2= 9.46	Σy2= 8.88	Σxy= 9.06

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Sales,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{21.60}{5}$, = 4.32

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{9.46}{5}}$, = 1.3755

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{1.3755}{4.32}\times 100$, = 31.84%

For the Actual Sales,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{21.00}{5}$, = 4.20

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{8.88}{5}}$, = 1.33267

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{1.33267}{4.20}\times 100$, = 31.73%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{9.06}{\sqrt{9.46\times 8.88}}$, = 0.99

Calculation of Probable Error:

P.E. (r) = $0.6745\times\frac{1-r^2}{\sqrt{n}}$, $0.6745\times\frac{1-(0.99)^2}{\sqrt{5}}$, = 0.0

Calculation for Butter *(Figure in kg. '0000')*

Fiscal Year	Budgeted Sales (X)	Actual Sales (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	3.42	3.68	-2.02	-1.66	4.08	2.76	3.35
2062/063	4.13	4.30	-1.31	-1.04	1.72	1.08	1.36
2063/064	5.26	4.89	-0.18	-0.45	0.03	0.20	0.08
2064/065	6.53	6.24	1.09	0.90	1.19	0.81	0.98
2065/066	7.86	7.59	2.42	2.25	5.86	5.06	5.45
N = 5	ΣX= 27.20	ΣY= 26.70	Σx= 0	Σy= 0	Σx^2= 12.88	Σy2= 9.91	Σxy= 11.22

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Sales,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{27.20}{5}$, = 5.44

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{12.88}{5}}$, = 1.60499

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{1.60499}{5.44}\times 100$, = 29.50%

For the Actual Sales,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{26.70}{5}$, = 5.34

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{9.91}{5}}$, = 1.40783

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{1.40783}{5.34}\times 100$, = 26.36%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{11.20}{\sqrt{12.88\times 9.91}}$, = 0.993

Calculation of Probable Error:

P.E. (r) = $0.6745\times\frac{1-r^2}{\sqrt{n}}$, $0.6745\times\frac{1-(0.993)^2}{\sqrt{5}}$, = 0.004

APPENDIX - II

Calculation of Mean, Standard Deviations and C. V. & Correlation

Here, Budgeted Production (Target) = X

Actual Production = Y

Calculation for milk *(Figure in Ltr. '0000')*

Fiscal Year	Budgeted Prod^{n} (X)	Actual Prod^{n} (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	35.05	32.52	-5.29	-4.52	27.98	20.43	23.91
2062/063	37.52	35.21	-2.82	-1.83	7.95	3.35	5.16
2063/064	39.03	37.16	-1.31	0.12	1.72	0.01	-0.16
2064/065	44.06	38.59	3.72	1.55	13.84	2.40	5.77
2065/066	46.04	41.72	5.70	4.68	32.49	21.90	26.68
N = 5	ΣX= 201.70	ΣY= 185.20	Σx= 0	Σy= 0	Σx^2= 83.98	Σy2= 48.09	Σxy= 61.36

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Production,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{201.70}{5}$, = 40.34

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{83.98}{5}}$, = 4.09829

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{4.09829}{40.34}\times 100$, = 10.16%

For the Actual Production,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{185.20}{5}$, = 37.04

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{48.09}{5}}$, = 3.10129

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{3.10129}{37.04}\times 100$, = 8.37%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{61.36}{\sqrt{83.98\times 48.09}}$, = 0.965

Calculation of Probable Error:

P.E. (r) = $0.6745 \times \frac{1-r^2}{\sqrt{n}}$, $0.6745 \times \frac{1-(0.965)^2}{\sqrt{5}}$, = 0.0303

Calculation for Dahi (yoghurt) *(Figure in Ltr. '0000')*

Fiscal Year	Budgeted Prod^n (X)	Actual Prod^n (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	1.93	1.92	-1.19	-1.11	1.42	1.23	1.32
2062/063	2.13	2.34	-0.99	-0.69	0.98	0.48	0.68
2063/064	2.79	2.86	-0.33	-0.17	0.11	0.03	0.06
2064/065	3.72	3.52	0.60	0.49	0.36	0.24	0.29
2065/066	5.03	4.51	1.91	1.48	3.65	2.19	2.83
N = 5	ΣX= 15.60	ΣY= 15.15	Σx= 0	Σy= 0	Σx^2= 6.52	Σy2= 4.17	Σxy= 5.18

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Production,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{15.60}{5}$, = 3.12

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{6.52}{5}}$, = 1.14193

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{1.14193}{3.12}\times 100$, = 36.60%

For the Actual Production,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{15.15}{5}$, = 3.03

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{4.17}{5}}$, = 0.91324

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{0.91324}{3.03}\times 100$, = 30.14%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{5.18}{\sqrt{6.52\times 4.17}}$, = 0.99

Calculation for Ghee *(Figure in kg. '0000')*

Fiscal Year	Budgeted Prod^n (X)	Actual Prod^n (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	2.62	2.68	-1.71	-1.67	2.92	2.79	2.85
2062/063	3.26	3.32	-1.07	-1.03	1.14	1.06	1.10
2063/064	4.02	3.86	-0.31	-0.49	0.09	0.24	0.15
2064/065	5.25	5.65	0.92	1.30	0.85	1.69	1.20
2065/066	6.50	6.24	2.17	1.89	4.71	3.57	4.10
N = 5	ΣX= 21.65	ΣY= 21.75	Σx= 0	Σy= 0	Σx^2= 9.71	Σy2= 9.35	Σxy= 9.40

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Production,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{21.65}{5}$, = 4.33

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{9.71}{5}}$, = 1.39356

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{1.39356}{4.33}\times 100$, = 32.18%

For the Actual Production,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{21.75}{5}$, = 4.35

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{9.35}{5}}$, = 1.36748

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{1.36748}{4.35}\times 100$, = 31.44%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{9.40}{\sqrt{9.71\times 9.35}}$, = 0.986

Calculation forButter *(Figure in kg. '0000')*

Fiscal Year	Budgeted Prod^{n} (X)	Actual Prod^{n} (Y)	$x=X-\overline{X}$	$y=Y-\overline{Y}$	x^2	y^2	XY
2061/062	3.52	3.71	-1.93	-1.65	3.72	2.72	3.18
2062/063	4.21	4.32	-1.24	-1.04	1.54	1.08	1.29
2063/064	5.42	4.91	-0.03	-0.45	0.0009	0.20	0.02
2064/065	6.46	6.24	1.01	0.88	1.02	0.77	0.89
2065/066	7.64	7.62	2.19	2.26	4.79	5.11	4.95
N = 5	ΣX= 27.25	ΣY= 26.80	Σx= 0	Σy= 0	Σx^2= 11.08	Σy2= 9.88	Σxy= 10.33

Calculation of mean, standard deviation and coefficient of variation;

For the Budgeted Production,

Mean ($\overline{X}$) = $\frac{\sum X}{N}$, = $\frac{27.25}{5}$, = 5.45

Standard Deviation (± x) = $\sqrt{\frac{x^2}{N}}$, = $\sqrt{\frac{11.08}{5}}$, = 1.48862

Coefficient of Variation (CVx) = $\frac{\pm_x}{\overline{X}}$, = $\frac{1.48862}{5.45}\times 100$, = 27.31%

For the Actual Production,

Mean ($\overline{Y}$) = $\frac{\sum Y}{N}$, = $\frac{26.80}{5}$, = 5.36

Standard Deviation (± y) = $\sqrt{\frac{y^2}{N}}$, = $\sqrt{\frac{9.88}{5}}$, = 1.40570

Coefficient of Variation (CVy) = $\frac{\pm_y}{\overline{Y}}$, = $\frac{1.40570}{5.36}\times 100$, = 26.22%

Calculation of Correlation of Coefficient:

r_{xy} = $\frac{\sum xy}{\sqrt{\sum x^2 . \sum y^2}}$, = $\frac{10.33}{\sqrt{11.08\times 9.88}}$, = 0.987

APPENDIX – III

Kathmandu Dairy Pvt. Ltd.

Babarmahal, Kathmandu

Balance - Sheet

Equities and Liabilities	As On 32.3.2062	As On 32.3.2063	As On 32.3.2064	As On 32.3.2065	As On 32.3.2066
	(Nrs.)	(Nrs.)	(Nrs.)	(Nrs.)	(Nrs.)
Shareholders Fund					
Share Capital	8,000,000.20	8,000,000.20	8,000,000.20	8,000,000.20	8,000,000.20
Profit and Loss	1,372,493.04	1,765,758.04	2,165,544.39	2,643,157.16	2,551,276.30
	9372,493.07	9,765,758.04	10,165,544.39	10,643,157.16	10,551,276.30
Loan fund; Secured					
Loan from NIDC against Collator of Loan	3,000,000.00	1,896,167.00	1,372,536.00	1077,676.00	
Hire Purchase Loan From SCB					2,778,912.21
Sub Total	3,000,000.00	1,896,167.00	1,372,536.00	1,077,676.00	2,778,912.21
Total Source of Funds	12,372,493.07	11,661,925.04	11,538,080.39	11,720,833.16	13,330,188.51

Assets					
Concurrent Assets					
Fixed Assets-Grass	9,817,787.37	11,065,284.14	12,174,104.08	14,372,753.71	18,492,436.91
Depreciation	2,653,016.88	3,748,919.34	4,866,275.83	6,139,268.38	7,623,297.67
	7,164,770.49	7,316,664.80	7,307,828.25	8,233,485.33	10,869,139.23
Current Assts					
Raw Material & other Stocks	1,249,520.07	1,551,515.82	3,850,528.52		
Finished Stock	1,791,233.08	2,252,693.24	2,734,427.15		
Inventories in Hands				6,060,239.05	2,769,712.14
Trade Debtors	1,678,962.23	84,436.34	661,181.52	943,095.64	1,160,094.25
Loans Advance & Debtors	145,734.00	1,084,450.66	754,723.13	595,500.02	595,500.02
Corporate Tax Receivable				7,905.80	
Vat Receivable	31,893.39				65,053.83
Cash & Banking Balance	884,077.05	138,942.56	416,196.14	465,030.42	945,518.77
Pre-paid Expenses					70,455.27
Sub-total	5,781,419.82	5,122,038.62	8,417,056.46	8,071,770.93	5,606,334.28
Less; Current Liabilities					
Sundry Creditors	505,762.45	735,251.40	4,108,326.87	4,419,191.10	2,899,138.98
Income Tax Provision	67,934.79				
Vat Payable		26,287.00	8,160.00	51,836.00	
Accrued Interest but Not due		15,240.00			
Corporate Tax Payble					10,275.02
TDS Payable			3,000.00	300.00	14,775.00
Provision for expenses			67,317.44		
Bonus Provision				63,096.00	81,096.00
Advance from Customers				50,000.00	140,000.00
Sub Total	573,697.24	776,778.35	4,186,804.31	4,584,423.10	3,145,285.00
Net Working capital	5,207,722.58	4,345,260.25	4,230,252.15	3,487,347.83	2,461,049.28
Total Application of funds	12,732,493.07	11,661,925.05	11,538,080.39	11,720,833.16	13,330,188.51

APPENDIX – IV

Kathmandu Dairy Pvt. Ltd Babarmahal , Kathmandu

Income statement

For the Year 01/04/2061 To 32/03/2066

Details	2061/62	2062/63	2063/64	2064/65	2065/66
Sales	16,475,121.45	18,547,112.77	19,682,040.94	25,657,088.04	29,459,831.71
Less; Cost of raw material consumed	13,394,785.80	14,340,125.70	15,214,844.10	19,872,457.79	20,483,705.62
Production overhead	1,140,218.17	1,331,548.27	1,305,283.52	1,502,324.15	1,947,529.41
Finished Goods Decrease/(Increase)	(420,700.19)	(461,460.16)	(481,733.91)	(112,123.35)	1,555,977.32
	14,114,303.78	15,210,213.81	16,038,393.71	21,262,658.58	23,987,212.35
Gross Profit	2,360,817.67	3,336,898.96	3,643,647.23	4,394,429.46	5,472,619.36
	14.30%				
Less;					
General Administrative Expenses	963,966.82	1,396,865.90	1,757,875.93	2,282,783.25	2,994,844.07
Finance Cost	37,301.00	359,007.00	222,633.00	213,217.45	101690.00
Depreciation	991,388.22	1,095,602.45	1,117,656.49	1,272,992.55	1,484,029.30
Staff Bonus				63,096.00	81,096.00
Sub-total	1,992,656.04	2,851,475.35	3,098,165.42	3,832,089.25	4,661,659.38
Net Operating Profit/(loss) before Tax	398,161.63	485,423.61	545,481.81	630,956.97	810,959.98
Non-operating income	7,901.03	15,550.88		68,616.76	
Profit Before Tax	376,062.66	500,974.49	545,481.81	630,956.97	810,959.98
Tax provision	55,848.91	100,194.90	135,530.66	153,344.20	195,840.82
Special Tax Provision	12,085.88	7,514.62	10,164.80		707,000.00
Net Profit after Tax	308,127.87	393,264.97	399,786.35	477,612.77	91,880.84
Profit From Previous Year	1,064,365.20	1,372,493.07	1,765,758.04	2,165,544.39	2,643,157.14
Net Profit carried to Balance Sheet	1,372,493.07	1,765,758.04	2,165,544.39	2,643,157.16	2,551,276.30