

**USE OF CVP ANALYSIS IN PROFIT PLANNING  
WITH SPECIAL REFERENCE TO JANAKPUR CIGARETTE  
FACTORY**

By.

***Ram Bhushan Singh***

*R.R.M Campus Janakpurdham*

**T.U. Registration No.: - 7-1-13-165-2000**

**Campus Roll No. : - 19/62**

**Exam Roll No. : - 491**

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# Declaration

*I hereby declare that this thesis entitled “Use of CVP Analysis in Profit Planning”; a case study of JCF Ltd submitted to Research Department of R.R.M Campus Janakpurdham, faculty of management, Tribhuvan University. This is my original work as partial fulfillment of the requirement of the degree of Master of Business Studies (M.B.S). This is prepared under supervision of Mr. Binod Shah, Lecturer R.R.M Campus Janakpurdham.*

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## 5. Summary, Conclusions and Suggestions

**5.1. SUMMARY:** – Every organization has established for earning profit. Profit and profitability do not just happen at random. It is to be managed by effective managerial skill and optimum utilization of scarce resources. So, companies most require effective profit planning for improve their profitability and financial position. In profit planning, there are various tools but, CVP analysis is a powerful tool in the hand of management for profit planning. It helps to study relationship between cost, volume and profit. It also helps in improving profitability. Without CVP analysis, we can not make effective profit planning.

The objectives behind this research study are examined the use of CVP analysis in profit planning of JCF Ltd. It is also examines the relationship between cost, volume and profit, margin of safety, BEP, leverage, operating profit of JCF Ltd. To fulfill objectives, I have used secondary data with descriptive analytical research design. I have analyzed various analytical tools to achieve objectives such as sales trend analysis, cost analysis, variable cost analysis, fixed cost analysis, v/c ratio analysis, cm ratio analysis, BEP analysis, Margin of safety analysis, Operating Profit analysis, Operating Leverage analysis etc.

From analysis of data by various tools, it shows that JCF Ltd has decreasing Sales Trend, decrease in total cost and variable cost, fluctuating v/c ratio trend, contribution margin ratio is decreasing trend, break-even point is increasing trend, Financial BEP is increasing trend, operating profit is decreasing trend and operating leverage is increasing trend. Due to decrease in sales, contribution margin ratio and operating profit, it depicts that profitability of JCF Ltd is not satisfactory. It means that there is lack of effective profit planning and not practicing CVP tools.

**5.2 CONCLUSIONS:** – After data presentation and analysis I got various major finding related with objectives and I drawn some conclusions from finding of the study are as follows;

- Sales revenues of JCF Ltd is decreasing in 2059/60 by 2.68 %, in 2060/61 by 2.20 %, in 2062/63 by 6.01 % and increasing in 2061/62 by 1.56 % with comparison of last year sales. It shows that

sales of JCF Ltd is not satisfactory and it is in decreasing trend due to political situation of country, lack of proper sales plan, competition market, government policy etc.

- The total cost of JCF Ltd is decreasing from Rs. 1140424 to Rs. 1084943. in the study period. Decrease in sales, variable cost also decrease that's why total cost is decreasing trend.
- Variable cost of JCF Ltd is decreasing from Rs. 927778 to Rs. 867877 in study period because it is directly vary with sales.
- Fixed cost of JCF Ltd is not remains constant due to lack of appropriate use in segregation of fixed cost. It is in increasing slightly from Rs. 205899 to Rs. 219337.
- Variable cost ratio of JCF Ltd is increasing from 77.83 % to 80.75 % in beginning and decreasing to 79.73 % in later. It depicts that it is not satisfactory that average 79.48 % of the sales are variable cost. It is also indicates that variable cost decrease but not according to sales revenues.
- Contribution margin ratio of JCF Ltd is decreasing from 22.17 % to 19.25 % in beginning, increase to 21.05 % in middle and decrease to 20.27 % in later. It shows the weakness of JCF Ltd. it is in decreasing trend due to increase in v/c ratio. There is indirect relationship between CM ratio and v/c ratio.
- Break-even point of JCF Ltd is in increasing from Rs. 8,72,973.96 to Rs. 10,23,234.06 in beginning and decreasing to Rs. 9,78,637.62 in later. It depicts that JCF most require increase in sales to get break-even point.
- Cash BEP of JCF Ltd is high in the fiscal year 2060/61 and low in 2058/59. It shows that JCF Ltd has higher capacity to cover cash expenses in 2061/62 and lower in 2058/59. It is also indicated that JCF most sales over to cover cash expenses of factory.
- Financial BEP of JCF Ltd is high in year 2061/62 and low in 2058/59. It depicts that the JCF Ltd most sales over than Financial BEP to give benefits to the shareholders.
- From comparative study, Operating BEP is greater than Cash BEP and Financial BEP is greater than Operating BEP of JCF Ltd. It indicates that to cover cash expenses JCF most sale more than Cash BEP, to earn normal profit JCF most sale more than Operating BEP and to give benefits to the shareholders.



- Margin of Safety ratio of JCF Ltd is decreasing from 26.77 % to 9.94 % in beginning, increase to 14.12 % in middle and later decrease to 10.09 % in the study period. It depicts that the weakness of JCF Ltd.
- Operating profit ratio of JCF Ltd is in decreasing trend. It is decreased from 5.93 % to 1.91 %. It shows that profitability of JCF is not satisfactory.
- Operating Leverage of JCF Ltd is increasing trend. It is increased from 3.74 times to 9.91 times due to decrease in operating profit. It will affect profit if sales decrease.

**5.3 SUGGESTIONS:** –Now world move around the globalization and Nepal also participates in globalization market with being member of WTO. So, Nepalese company has to prepare effective management policy, profit plan and adopt new scientific technologies. CVP analysis helps the organization to achieve organizational goal and improve profit planning. From above summary and conclusions, I would like to give some useful suggestions to JCF Ltd management for improving profitability and using CVP analysis tools while making profit plan. The suggestions are as follows:-

- Sales of JCF Ltd is decreasing trend due to internal and external factors. So, JCF Ltd should consider that internal and external factor which affects the sales.
- JCF should use cost control technique to control cost for minimizing cost.
- JCF Ltd should use its plant and machinery's full capacity to minimize fixed cost and increase in profit.
- JCF Ltd should adopt appropriate segregation method of semi-variable cost.
- JCF Ltd should decrease variable cost by improving material purchase policy and wage payment policy.
- JCF Ltd should control its overstaffing in factory.
- JCF Ltd should sale Rs. 9, 66,492.45 in average to maintain BEP.
- JCF Ltd should sale Rs. 9, 32,612.49 in average to cover all cash expenses.
- JCF Ltd should sale Rs. 10, 27,788 in average to give the benefits to the shareholders.

- JCF Ltd should increase its margin of safety by increasing actual sales.
- JCF Ltd should increase its sales by using sales promotion technique.
- JCF should increase its profit by increase in sales or decrease in cost.
- JCF Ltd should increase its sales because operating leverage is in increasing trend.
- JCF Ltd should use CVP analysis tools for effective profit planning.
- JCF Ltd should adopt market research for increasing sales.

# 1. Introduction

***General Background of the study:*** - Nepal is a small, unique & landlocked country with different socio-economic and cultural pattern. It is also known as country of peace, natural beauties & country of Buddha. It is also known by highest pick Mount Everest. Total area of Nepal is 147181 sq. meter along with length 885 km. and average breadth 193 km. The area of Nepal is 0.3% of total area of Asia and 0.03% of total area of earth. It is surrounded by China in north and by India in south, east, and west. It is also known as agricultural based country where 78% people involve in agriculture and this sector contributes 40% GDP. Out of total land of Nepal, 23% of land is suitable for agriculture and 77% of land is covered by hills & mountains. Per capita income of Nepal is only \$240 per annum. There are 31% people lies under poverty line, 5% fully unemployment and 32% partial employment. Economic growth rate is only 2.5% per annum which is very low.

For developing the Nepal, we must develop the industries by giving prevailing rules and regulation, motivating investor to invest in industrial area, promote the entrepreneur by giving reward and respect. There are many chance of developing agricultural based industries. So, in agriculture area, we use scientific method. Besides above, we use various tools & technique of management such as ratio analysis, cash flows analysis, cost-volume-profit analysis, capital budgeting, sales budgeting, production budgeting over head budgeting, master budgeting, pricing decision, which are help in profit planning.

Mainly organization or enterprises classified into two type i.e. profit oriented and service oriented enterprises. Profit planning is an important approach of profit oriented enterprises. It is also a powerful tool of management to accomplish the objectives of the enterprises in systematic way.

Every business organization establish for making profit. Profit is the ultimate goal of a business organization. Profit may be defined as the difference

between revenue and cost. Profit does not just happen; it is to be managed by better managerial skills.

Planning refers to the looking forward function of management. It is defined as determining in advance what is to do? When it is to be done? How it is to be done? And by whom it is to be done? It is a function of management to give direction to the organizational activities for effective performance.

Plan related with maximization of profit is called profit planning. For profit maximization, we must make plan for maximizing revenue and minimizing cost. It is a part of overall planning of an organization. For profit planning, we must use various analytical tools such as master budgeting, sales budgeting, production budgeting, capital budgeting, cash flow analysis, cost-volume-profit analysis, ratio analysis, overhead budgeting, inventory management, receivable management, cash management etc. Among various management tools cost volume profit analysis is most reliable tools in the hand of management for managing profit or profit planning.

CVP analysis refers to the study of the inter relationship between price of the product, volume of activity, variable cost per unit, total fixed cost and product mix. CVP analysis applies the variable costing approach in which we analyze short term static relationship between cost, volume and profit. CVP analysis includes the contribution margin analysis and break-even analysis. Of which contribution margin analysis provides the best possible answers of many what if questions of management and it is also a analytical technique to determine and evaluate the effects on profit of change in sales volume, selling price, fixed cost and variable cost where break-even analysis emphasis on level of activity at which firm does not make profit or loss. It is also called break-even point. CVP analysis helps the management for making effective profit planning. So, CVP analysis is a powerful tool in the hand of management for achieving organizational goal.

## ***1.1 Sample company profile:-***

**1.1.1 Introduction of company:-** In Nepal, industrialization begins in 1936 A.D. after introducing five year plan in 1951 A.D. Various manufacturing industries developed in the public sector Such as industries of leather, sugar, paper, brick, cigarette, tile, soap, agricultural tools and textile etc. industry sector contribute 10% GDP and 3% employment in total employment. Cigarette industry history started with the establishment of Nepal Cigarette Factory in 1991 B.S. which is located at Birgunj. It fulfills 9% of national demand with authorized capital Rs. 48 lacks with production capacity of 300 millions sticks per year. Second cigarette industry is Nepal Tobacco Company established at Katmandu in 2017 B.S. with authorized capital Rs.70 lacks and production capacity 500 million sticks per year. It fulfills 16% of total national demand the company shifted Katmandu to Hetauda in 2025 B.S. Another big cigarette industry is Surya Nepal Tobacco Company which is operated from 2043 B.S. located at Simra in Bara district. It is a joint venture of INDO Nepal and UK. Its production capacity is 3 billions sticks per year. It produces higher quality cigarette such as Surya, Suryalight, Shikher, Shikherlight, Khukuri, Bijuli, Chautari etc.

Janakpur Cigarette Factory is a huge cigarette manufacturing company which is established at 8 marg 2019 B.S. under Company Act. 2021 section 12. The JCF Ltd registered in 3 marg 2021 B.S. and starting production from 29 poush 2021 B.S. under Soviet Union Technology and Financial Aid. It's authorized capital Rs. 8 crores and issued and paid up capital Rs. 4 crores 8 lacks and 37 thousand. Its initial investment is Rs 2 crores. There are two shift production schedule each shift produce 2 Arab sticks in beginning stage but now each shift produce 3 Arab sticks altogether 6 Arab sticks which easily full our national demand and supply to other country to earn foreign

currency. It was imported of its essential raw material from India and overseas but, now a days, it takes raw material from Nepal's tobacco cultivators, farmers and supplier. In Nepal there are only some district which is main supplier of tobacco i.e. Sirha, Saptari, Sarlahi, Dhanusha, Mahottari, Bara and Parsha.

**1.2.2. Product of the company:-** JCF Ltd produce various brand of cigarette like Gurung, Chuchura, singh, jwala, janaki and Asha in first stage.

In middle stage, it produces Shaypatri, Laligurash, Kosheli, Shilver 25, Munal, Sugun, Dovbhan, Kasturi, Himchuli and Yak Kings but, now a days, it produces Yak Kings size filter, Yak filter, Lahure filter, Gaida, Deurali , Uphar and Gaida filter .

**1.2.3 Objectives of the company:** - Basically every company, firm and business organization has taken three common objectives i.e. profit maximization, sales revenue maximization and wealth maximization. JCF ltd has also taken some objectives they are as follows;

- (i) To produce tobacco of every types of cigarette, bidi and cigar.
- (ii) To produce the things relating to tobacco
- (iii) To conduct research about tobacco production
- (iv) To establish and develop the industries related with JCF
- (v) To protect assets by rules
- (vi) To provide dealership services
- (vii) To perform export and import
- (viii) To purchase and sale of means
- (ix) To full fill the desire of the customer
- (x) To contribute in Nepalese economy

## 1.2.4 Functions, Duties and Responsibility of JCF

**Ltd. :-** The function, duties and responsibilities of Janakpur Cigarette Factory Ltd are as follows;

- (i) Factory must appoint that dealer who has got the license of selling cigarette and other consumable goods.
- (ii) Factory control the price of cigarette in the market when required.
- (iii) After delivery of cigarette will not adjust in past sales if the price of cigarette increase or decrease.
- (iv) If the cigarette supplied by factory is damaged, dealer should apply or consult the concern department with in 30 days. Then factory management sent a factory representative to check the cigarette. If the cigarette is not damaged by any activity of dealer then factory change the damage cigarette to getting this facilities dealer should follow the following term and condition;
  - a) cigarette should keep in warehouse preferred by factory
  - b) dealer should sent monthly statement of stock to factories related department
  - c) Dealer must submit report that the cigarette is not damage by him which is prepared by factory's representative.
- (v) Factory supply cigarette in time if not no-one can do any work against the factory.

- (vi) If the dealer can not pay the credit amount then factory recovered from his/her nominee or by selling his/her properties.
- (vii) Dealer should re-new his/her license with in 35 days by paying Rs. 200 if the dealer does not re-new his/her license then the factory should conceal the license.
- (viii) If any dealer death then authority transferred to his/her nominee.
- (ix) Factory always try to fulfill the customer desire by producing quality cigarette.

***1.2.5 Operational process of factory:-*** To fulfill the organizational objective, the factory performs various activities through various branches. They are as follow:-

- (i) Simple and Individual Management High Branch.
- (ii) Economic & administration High Branch.
- (iii) Marketing High Branch
- (iv) Inventory High Branch
- (v) Purchase High Branch
- (vi) Internal auditing High Branch
- (vii) Working High Branch
- (viii) Tobacco Technical & Research High Branch.

**1.2.6 Marketing Area of Factory: -** The factory supplies cigarette all over the Nepal. It establishes various offices, sub branches to manage the selling of cigarette. They are as follows;

- (i) **Regional Sales Department of Janakpur: -** Under this department, the factory establishes the branches on the following places;



(a) Janakpurdham (b) Bharatpur (c) Hetauda (d) Birgunj (e) Jaleswor (f) Shindhuli (g) Lahan (h) Kattari (i) Lalbandi.

**(ii) Regional Sales Department of Biratnagar:** - Under this department, the factory establishes the branches on the following places;

(a) Biratnagar (b) Birtamod (c) Hile (d) Fidim (e) Khadhari (f) Terhthum (g) Taplejung (h) Bhojpur (i) Ithari (j) Damak.

**(iii) Regional Sales Department of Butwal:** - Under this department, the factory establishes the branches on the following places;

(a) Butwal (b) Tamghas (c) Baglung (d) Kusma (e) Beni (f) Tansen (g) Aryabhanjyang (h) Sandhikhark (i) Sidharthnagar (j) Ridi (k) Pokhra (l) Syangja (m) Baling (n) Galkot (o) Ghorahi (p) Nepalgunj (q) Dhangadhi (r) Surkhet

**(iv) Regional Sales Department of Kathmandu:** - Under this department, the factory establishes the branches on the following places;

(a) Kathmandu (b) Sankhu (c) Banepa (d) Gorkha (e) Gajuri (f) Naubise (g) Trisuli (h) Farfing (i) Milamchi (j) Dhading besi (k) Ghunche (l) Chapagaun (m) Ramechhap.

### ***1.2.7 Major Accounting Policies of Factory:*** - There

are various accounting policies adopted by J.C.F Ltd out of them such as follows;

- (i) Financial statement prepared under company act. 2053.
- (ii) All Assets and Liabilities are valued according to post cost method
- (iii) Calculate taxable income for tax purpose

- (iv) All fixed assets has been charging depreciation according to straight line method except land
- (v) Purchasing less than Rs. 2000 valued assets charge as expenses otherwise capitalized
- (vi) Inventory valued on average price at the end of year.
- (vii) Keeping record of expenses and income on accrual basis

### ***1.2.8 Control Mechanisms of JCF Ltd:*** - Control is

mechanisms which minimize the deviation of actual from standard. There are two types of controlling system in JCF Ltd.

- (i) Internal controlling system
- (ii) External controlling system

**(i) Internal controlling system:** - In this system JCF Ltd control its activities in the following ways;

- a) By determining standard
- b) By controlling budget
- c) By internal auditing
- d) By applying organizational policy, rule and regulation
- e) By management notice system
- f) By using various resources of management

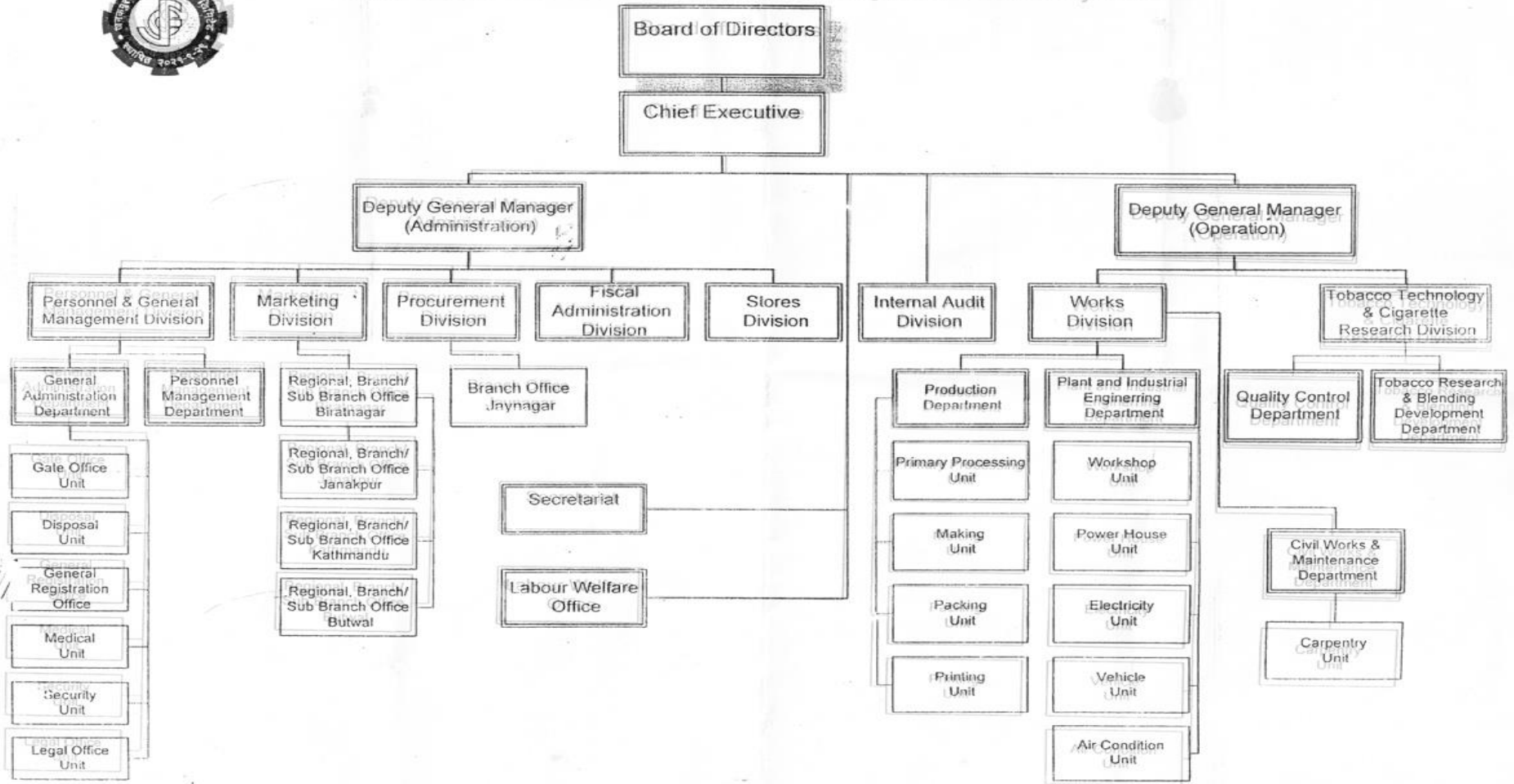
**(ii) External controlling system:** - In this system JCF Ltd control its activities in the following ways;

- (a) By regulating the rules and regulation of the Nepal Government
- (b) By external auditing
- (c) By mobilizing external environment & parties

## 1.2.9 Organizational Chart of JCF Ltd.:-



Organization Chart For Janakpur Cigarette Factory Ltd.



***1.3 Statement of the Problems:*** -Economic development of Nepal depends upon agriculture and industrial sector equally. Besides the agriculture sector, industrialization faces so many problems such as

constraints in supply of raw material, basic infrastructure, low purchasing power of people, undeveloped capital market and political situation.

JCF Ltd is running from past 44 years but, its profitability is not satisfactory because of various problems such as lack of effective management, lack of idle capital planning , poor liquidity position, lack of using management tools & technique, ineffective accounting process, lack of inventory management, lack of effective profit planning, inefficient operation etc.

Profitability does not just happen at random. It is to be managed by effective profit planning. In profit planning, the cost –volume-profit analysis technique provides direction to the company to achieve target profit. So, by using the tools of CVP analysis, we can overcome various problem occurred in profit planning. In this research study, we have given focus on the following problems;

- (i) Is JCF Ltd used CVP analysis technique in profit planning?
- (ii) Which parts of CVP analysis such as contribution margin, break even analysis, margin of safety analysis are mostly considered?
- (iii) In which major area, CVP analysis is more useful?
- (iv) What are the major difficulties faced by the enterprises while using CVP analysis technique for profit planning?

***1.4 Objectives of the study:*** - This study is nearly related with use of CVP analysis in profit planning in JCF Ltd. This study is taken the following objectives;

- (i) To examine the use of CVP analysis in profit planning
- (ii) To study the relationship between cost, volume and profit.
- (iii) To know sales trend of JCF Ltd
- (iv) To analyze cost of JCF Ltd
- (v) To know variable cost ratio of JCF Ltd

- (vi) To know application of contribution margin analysis
- (vii) To know the break-even point of JCF Ltd
- (viii) To know cash, financial and operating BEP of JCF Ltd
- (ix) To know operating profit ratio of JCF Ltd
- (x) To know operating leverage of JCF Ltd
- (xi) To give suggestion to JCF Ltd for improving its policies

**1.5 Need and Significance of the study:** - The use of CVP analysis in profit planning is must necessary in every factory & company. CVP analysis helps management for making various decisions. So, this study has carried so many needs and significances. They are as follows;

- (i) It helps to examine use of CVP analysis in profit planning of the company
- (ii) It helps to find out relation between price, cost, volume, and profit
- (iii) It helps to calculate the sales volume of desired or target profit
- (iv) It helps to management in decision making
- (v) It helps to provide necessary recommendation for the further improvement of JCF Ltd.
- (vi) It helps to the researcher who want to do research on the related field

**1.6 Limitation of the study:-**This study “Use of CVP analysis in profit planning” has bounded by the following limitation;

- (i) It covers the data fiscal year 2058\59 to 2062\63
- (ii) It is based on primary data as well secondary data
- (iii) It divides all cost into fixed and variable
- (iv) The amount in figure of thousand ‘000’
- (v) There is no any changes in technology, production method, efficiency and general price level

- (vi) There is synchronization between production and sales
- (vii) This study has been conducting only for partial fulfillment of MBS program
- (viii) This study basically centralized on use of CVP analysis technique in profit planning of JCF Ltd.

## ***2. Re-view of Literature***

**Introduction:** - After identification of problem, the re-view of literature process should be started. Re-view of literature means surveys of related books, dictionary, references, journals, magazines, encyclopedia, abstracts, thesis and dissertation, news paper etc. we can divide into two parts. They are as follows;

A. Conceptual Framework

B. Re-view of Various Thesis and Dissertation

**2.1 Conceptual frame work:** - Every business organization establish for earning profit. Profit does not just happen; it is to be managed by effective planning and managerial skill. Planning means the determination in advance what is to do? When it is to be done? How it is to be done? And by whom it is to be done? Without effective planning we can not get target profit. So, profit planning refers to make plans to achieve or meet the target profit easily. In profit planning, there are so many tools and techniques to be used such as CVP analysis, cash flow analysis, ratio analysis, capital structure analysis, capital budgeting, master budgeting etc.

**2.1.1 Objectives and importance of profit planning:-**

- (i) To develop broad and long range objectives of business organization.
- (ii) To specify the goals.
- (iii) To take managerial decision.
- (iv) To maximize profit of the organization.
- (v) To help in controlling system.
- (vi) To help in achieving budgeted or target profit.

**2.1.2 Process of Profit Planning:** - The profit planning process involves periodic, consistent and in-depth re-planning. There is certain process of profit planning. They are as follows;



- Step-1, Identification and evaluation of external relevant variable
- Step-2, Development of the broad objective of the enterprises
- Step-3, Development of specific goal for the enterprises
- Step-4, Take specific action and evaluation of enterprises strategies
- Step-5, Executive management planning instruction
- Step-6, Development and evaluation of project plans
- Step-7, Development and approval of tactical profit plan.
- Step-8, Implementation of profit plan
- Step-9, Preparation of periodic performance report
- Step-10, Follow up by provides feedback, takes corrective action and re-plans.

**2.2. Cost-Volume-Profit Analysis:** - All the expenditure involved in the process of producing goods and obtaining services measured in the terms of monetary value is called Cost. Cost may be variable, semi-variable and fixed.

Volume means revenue from sale of certain units of goods and services at certain price.

Profit refers to the difference between revenue and cost. Profit may be contribution profit, operating profit, profit before tax, and profit after tax etc.

Simply, the study of relationship between Cost, Volume and Profit is called Cost-Volume-Profit Analysis. It contains the following factors such as price of the product, volume of activity, variable cost per unit, total fixed cost and product mix. It applies variable cost approach. It analyses the short term static relationship between cost, volume and profit. Cost-Volume-Profit Analysis is serves as powerful tools in the hand of management. It is a technique to summaries the effect of changes in volume of activity on its cost, revenue and profit. It helps the management to make numerous short-term optimal decisions relating to cost control and profit maximization.

Cost-Volume-Profit Analysis provides the answer to the following questions:-

- (i) How much sales should be made to avoid loss?
- (ii) What should be the sales volume to earn a desired or target profit?
- (iii) What will be the profit or loss at the specified level of sales?
- (iv) What will be the effect of change in price, cost and volume on profit?
- (v) How will profits be affected when sales mix is changed?
- (vi) What will be the effect of planned expansion on cost-volume-profit relationship?
- (vii) Which product is the most profitable and which is least profitable?
- (viii) Should the sales of a product or operation of a plant be dropped?
- (ix) Should the firm be shut down temporarily or not?

**2.2.1 Assumptions of CVP Analysis:-** CVP analysis should be used with caution and only as an approximate guide for decision making because it has taken some assumption such are as follows: -

- (i) All costs can be segregated into fixed and variable costs.
- (ii) Fixed costs will remain unchanged and variable costs vary proportionately with activity.
- (iii) Single factor affecting costs and revenues are volume.
- (iv) There are no stock level changes i.e. there is synchronization between production and sales.
- (v) There is single product or in case of multi product, the sales mix does not change.

- (vi) There will be no change in technology, production methods, efficiency and general price level.
- (vii) Uncertainty does not prevail.

**2.2.2 Use of CVP analysis in Profit Planning:** - Planning is the 1<sup>st</sup> function of management. Under planning function, there are so many types of planning such as product planning, profit planning, cost planning, planning of activities etc. Among them profit planning is a most important function of management in every business organization. Profit planning helps to achieve desire or target profit. In profit planning, we use various tools and techniques such as Ratio analysis, CVP analysis, Cost benefit analysis, Capital expenditure analysis, cash flow analysis etc. Among them CVP Analysis is more useful in profit planning in the following ways: -

- (i) To ascertain the margin of safety.
- (ii) To estimate profit or losses at various level of output.
- (iii) To determine the break-even point in terms of unit or rupees.
- (iv) To determine optimal price of the product.
- (v) To determine the maximum sales volume to avoid losses.
- (vi) To determine the most profitable and least profitable product.
- (vii) To determine the sales volume at desired or target profit.
- (viii) To determine break-even-point when changes in selling price, variable costs and fixed costs.
- (ix) To find out the best combination of the product.
- (x) To make various decision about increase of decrease in selling price, fixed costs, variable costs etc.

**2.2.3 Role of CVP Analysis:** - Cost-Volume-Profit Analysis is an important tool for management in profit planning. It provides management a broad overview of the effects on costs, volume and profit due to the all kinds

of short-term financial changes. CVP analysis play an important role in the following way: -

- (i) It helps profit planning and control.
- (ii) It assists the management to know the behavior of costs and helps in budgetary control.
- (iii) It helps to determine the activity level where all the costs can be met and can achieve a target profit.
- (iv) It helps in making better managerial decision like make or buys, drop or continue, lease or purchase, accept or reject a special order etc.
- (v) It helps in fixation of selling price of goods and services produced by the firm.

**2.2.4 Basic Terms Used in CVP Analysis:-**The terms which are used in CVP Analysis is called Basic terms of CVP analysis. For example sales volume, variable costs, semi-variable costs, fixed costs, contribution margin, contribution margin ratio, moving fixed costs, profit etc. The terms are described as under: -

**(i) Sales volume:** - Sales volume of an organization is the product of selling price per unit and sales unit. It express in rupees. It is also know as combination of selling price per unit and sales unit. It is calculated as under;

$$\text{Sales volume} = \text{selling price per unit} \times \text{sales unit}$$

**(ii) Variable costs:** - The cost which is directly varied with level of activity is known as variable costs. For example direct material, direct wages, direct expenses etc. Total variable costs computed as under.

$$\text{Total Variable costs} = \text{variable cost per unit} \times \text{unit of output}$$

**(iii) Semi Variable costs:** - The cost which is partially variable and partially fixed is called semi-variable costs. E.g. Telephone charge, electricity charge.

(iv) **Fixed costs:** - The cost which is not directly varied with level of activity is called fixed cost. It remains constant. E.g. Rent, Salary, etc.

(v) **Contribution margin:** - The difference between sales volume and variable cost is called contribution margin. In other words, the sum of fixed cost and profit is known as contribution margin. Contribution margin and contribution margin per unit are computed as follows.

Contribution margin = Sales – Total variable cost

Or, Contribution margin per unit = SPPU- VCPU

Where,

a. SPPU = Selling Price Per Unit

b. VCPU = Variable Cost Per Unit

(vi) **Profit:** - The difference of Sales and Total cost is called profit. It is ultimate goal of every business organization. Profit is calculated as under.

Profit = Sales Value – Variable cost – Fixed cost

Profit = Contribution margin – Fixed cost

(vii) **Contribution margin ratio/profit volume ratio:** - The ratio of contribution margin and sales is called contribution margin ratio or profit volume ratio. It is derived as under.

Contribution margin ratio =  $\frac{\text{Contribution margin}}{\text{Sales revenue}}$

**2.2.5 Techniques of CVP Analysis:** - The techniques used in CVP Analysis are called Techniques of CVP Analysis. Mainly, there are three techniques which use in CVP Analysis. They are as follows;

- (i) Contribution Margin Analysis
- (ii) Break-even Analysis
- (iii) Margin of Safety Analysis.

**2.3. Contribution Margin Analysis:** - The difference of sales and variable cost is known as contribution margin. Contribution margin analysis involves a series of analytical techniques use to determine and evaluate the effect on profit of changes in sales volume, selling price, fixed cost and variable cost. It focuses on contribution margin. The term “profit” used in CVP Analysis is the amount of contribution margin available to absorb the fixed cost. Contribution margin is the excess of sales over variable cost. Contribution margin is calculated as under.

Contribution margin = Sales – Total variable cost

Or, Contribution margin = CMPU X Units sold

Or, Contribution margin = Fixed cost + Profit

Where, CMPU = Contribution Margin per Unit

If the firm has greater contribution margin than fixed cost is satisfactory, if not then it is not satisfactory. For profit planning, the manger always tries to maximize firm’s contribution to cover the fixed cost. The contribution margin will change according to change in unit sold, selling price per unit, and variable cost per unit in the following ways;

- (i) If unit sold increase, contribution margin also decrease or vice-versa
- (ii) If selling price increase, contribution margin also increase or vice-versa
- (iii) If variable cost per unit increase, contribution margin decrease or vice-versa

Under contribution margin analysis, we also discuss the contribution margin ratio. Contribution margin ratio is defined as the ratio of contribution margin and sales volume. It shows the percentage of contribution margin on sales volume. It is also known as the portion of sales besides variable cost. It

is also called profit volume ratio. Its short form is P/V ratio or CM ratio. It is calculated as under;

$$\text{Contribution margin ratio} = \frac{\text{Contribution margin}}{\text{Sales volume}}$$

$$\text{Or, Contribution margin ratio} = \frac{\text{SPPU}-\text{VCPU}}{\text{SPPU}}$$

$$\text{Or, Contribution margin ratio} = \frac{\text{CMPU}}{\text{SPPU}}$$

$$\text{Or, Contribution margin ratio} = \frac{\text{Sales volume}-\text{Variable cost}}{\text{Sales Volume}}$$

$$\text{Or, Contribution margin ratio} = 1 - \text{v/c ratio}$$

$$\text{Where, v/c ratio} = \frac{\text{variable cost}}{\text{Sales volume}}$$

$$\text{Or, v/c ratio} = \frac{\text{VCPU}}{\text{SPPU}}$$

So, contribution margin analysis helps to study how much contribution margin required covering fixed cost and getting target profit.

**2.4. Break-even Analysis:** - The Break-even Analysis is the most widely known the form of CVP Analysis. For this reason, the two terms i.e. CVP Analysis and Break-even Analysis are used interchangeably by many. Break-even analysis is a specific way of presenting and studying the inter-relationship between cost, volume and profit. It provides information to the management in most lucid precise manner. It is also known as an effective and efficient financial system.

The Break-even Analysis establishes a relationship between revenues and costs with respect to volume. It indicates the level of sales at which costs and revenues are in equilibrium and net income is zero, is called Break-even point. Break-even is that point of sales volume at which total revenues equal

to total cost. It is also known as no profit and no loss point. It should be noted that, the Break-even point is just incidental in CVP Analysis. It is the most significant aspect of the CVP Analysis to examine the effect of changes in cost, volume and price on profit.

According to Pappas and Brigham “Break-even Analysis is an important analytical technique used to study the relationship between cost, volume and profit.”

According to Spencer “Break-even Analysis is essentially a graphic device (but equivalent algebraic methods also exists) for integrating costs, revenues and output of the firm so as to illustrate the probable effects of alternative course of action upon net profit.”

Finally, we can say that the Break-even Analysis is studying the relationship between cost, revenue, output and profit.

**2.4.1. Assumptions of Break-even Analysis:** - The assumptions of Break-even Analysis are as follows;

- (i) All costs classified into fixed and variable.
- (ii) Selling price per unit does not change as units of sales change.
- (iii) There is only one product or in case of multi product, the sales mix of the product remains constant.
- (iv) The general price level remains stable in short run i.e. inflation or deflation.
- (v) Management policy will not change in short run.
- (vi) Total production unit is equal to sales unit.

**2.4.2 Type of Break-even Analysis:** - The Break-even point can be defined as the point or level of activity where the firm can recover only the costs or no any earning. There are three types of BEP.

**(i) Operating BEP:** - The sales, which produces the zero operating profit (EBIT) is called operating BEP. It recovers all operating expenses of a



firm. The level of activity more than operating BEP gives profit and less than operating BEP produces losses. It is calculated as under.

$$\text{Operating BEP} = \frac{\text{Total Operating Fixed Cost}}{\text{CM ratio}}$$

(ii) **Cash BEP:** - The sales, which produces no cash in hand, is called Cash BEP. It recovers all cash expenses. It is calculated as under.

$$\text{Cash BEP} = \frac{\text{Total Operating Fixed Cost} - \text{Depreciation}}{\text{CM ratio}}$$

(iii) **Financial BEP:** - The sales, which generates zero earning per share (EPS) is called Financial BEP. It recovers all costs including financial costs i.e. interest on debt and preference dividend.

$$\text{Financial BEP} = \frac{(\text{Operating fixed costs} + \text{Interest})}{\text{CM ratio}}$$

**2.4.3. Objectives of Break-even Analysis:** - The objectives of Break-even Analysis are as follows;

- (i) To determine profit at different level of sales and margin of safety.
- (ii) To find the level of output to get target profit.
- (iii) To show the effect of price reduction on sales volume and change in sales mix.
- (iv) To show the effect of fixed and variable costs on sales volume.
- (v) To take decision about make or buy and drop or continue.
- (vi) To select most profitable alternative.

**2.4.4. Techniques of Break-even Analysis:** - Break-even Analysis depicts the relationship between cost, volume, price and profit by calculating Break-even point. In BEP Analysis, Break-even point is most necessary to calculate. Break-even point is the point at which cost and revenue are equal.

The technique is used to calculate Break-even point is called Break-even Analysis technique. They are as follow: -

**(A) Contribution margin Technique:** - Contribution margin is the difference between sales revenue and variable cost. A Break-even point is reached when contribution equals to the total fixed cost. After the recovery of fixed cost, contribution equals to profit. Break-even point in units and rupees can be calculated as follow: -

$$(i) \quad \text{Break-even Point in units} = \frac{FC}{CMPU}$$

$$\text{Or, Break-even Point in units} = \frac{FC}{SPPU-VCPU}$$

Where, FC = Fixed cost

SPPU = Selling Price Per Unit

CMPU = Contribution Margin Per Unit

VCPU = Variable Cost Per Unit

$$(ii) \quad \text{Break-even Point in rupees} = \frac{FC}{\text{CM ratio or PV ratio}}$$

Where, CM ratio = Contribution Margin ratio

PV ratio = Profit Volume ratio

In conclusion, Below the BEP, the Company suffers from loss and above the BEP the company earns profit. So company always tries to maintain actual sales more than BEP sales.

**(B) Equation Technique:** - The technique of using mathematical model or equation to determine the break-even point is called equation technique. The equation can be expressed as:-

BEP sales in Rs. = Fixed cost + Variable cost

In symbolically,

$$Q \times SPPU = \text{Fixed cost} + Q \times VCPU$$

Where,  $Q = \text{BEP in units}$

$\text{SPPU} = \text{Selling Price Per Unit}$

$\text{VCPU} = \text{Variable Cost Per Unit}$

**(C) Income Statement Technique:** - The technique which is used to determine BEP in the form of income statement is called income statement technique. It is expressed as follows: -

Table no. 1

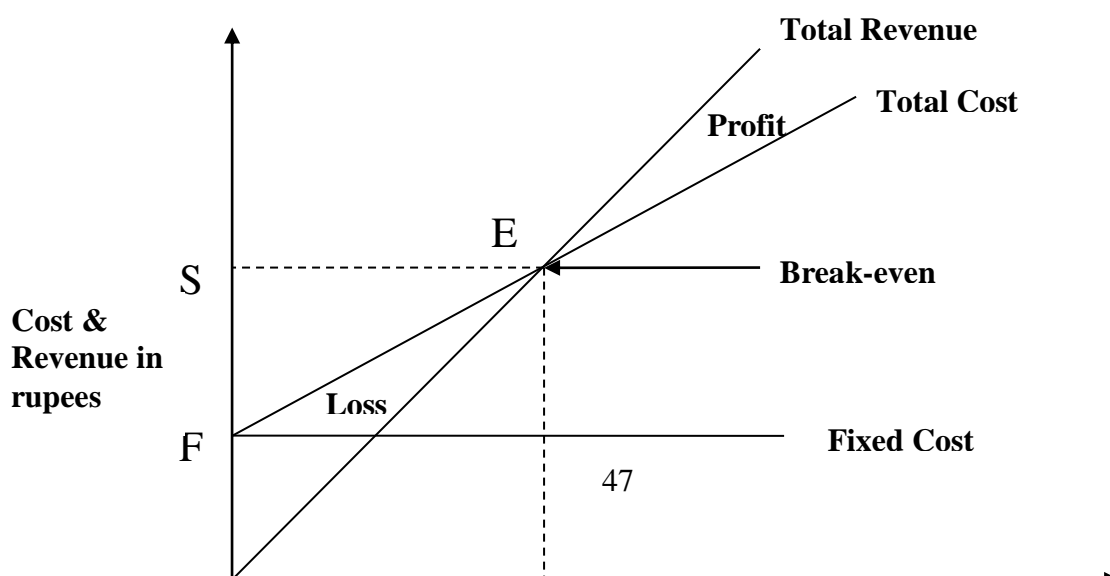
Income statement

<b>BEP sales in rupees</b>	<b>Xxx</b>
<b>Less:- Variable cost</b>	<b>Xxx</b>
<b>Contribution Margin Ratio</b>	<b>Xxx</b>
<b>Less:- Fixed Cost</b>	<b>Xxx</b>
<b>Profit</b>	<b>Xxx</b>

For, Break-even point in units =  $\frac{\text{BEP in rupees}}{\text{SPPU}}$

Note: - At Break-even Point, there is no any profit or loss. It means profit is zero.

**(D) Graphic or Chart Technique:** - The technique in which we use graph to calculate BEP in units or rupees is called Graphic or Chart Technique of BEP Analysis. In graph, crossing point of total cost line and total sales revenue line is called Break-even Point. It is cleared by using following graph: -





- (iv) Identification of fixed and variable costs involve in production process is more complicated.
- (v) Consumer may be taken discount on sales, so revenue may not perfectly vary with level of output
- (vi) Product mix may be changed in production shift.
- (vii) It is not necessary that unit produced and sold are always equal, there is also opening and closing stock
- (viii) Cost also affected by sales mix, technology, labor efficiency.

**2.5. Margin of Safety Analysis:** - The sales beyond the break even point

are known as Margin of Safety. In other word, the difference between actual sales and break even sales is known as margin of safety. It is an indicator of goodness for a business organization. High margin of safety indicates strong position of business since there is still profit either in substantial falling of sale. On other hand, low margin of safety indicates the weak position of business. Margin of safety can be increased by increasing the volume of sold unit, by increasing selling price per unit and by reducing fixed and variable cost. Under margin of safety analysis, we must calculate margin of safety in units and rupees and margin of safety ratio as follows: -

**(a) Margin of Safety:** - Margining of safety refers to the difference between actual sales and BEP sales. It may be expressed in units or rupees. It is calculated as under.

(i) Margin of safety in units = Actual Sales units – BEP sales units

Or, Margin of safety in units = 
$$\frac{\text{Profit}}{\text{CMPU}}$$

(ii) Margin of safety in rupees = Actual sales in rupees – BEP sales in rupees

Or, Margin of safety in rupees = 
$$\frac{\text{Profit}}{\text{PV ratio}}$$

**(b) Margin of Safety Ratio:** - The ratio between margin of safety and actual sales is known as Margin of Safety Ratio. It expressed in %. It is calculated as under.

$$\text{Margin of safety ratio} = \frac{\text{Actual sales} - \text{BEP sales}}{\text{Actual sales}}$$

Or, 
$$\text{Margin of safety ratio} = \frac{\text{Margin of safety}}{\text{Actual sales}}$$

**2.6 Moving fixed costs and Break-even sales volume:** - Fixed costs such as depreciation and rent will normally remain constant for capacity volume or relevant range. On the other hand, some fixed cost such as repairs and maintenance, supervision will change many times between the capacity volumes. That's why, fixed cost after capacity volume will not remain constant and calculation of Break even volume at that time is not easy task. In that time, there are two ways of calculating required BEP sales.

**(i) Assumed BEP Sales Method:** - The use of assumed BEP sales method requires some process. They are as follows: -

Step 1 Assume all moving fixed cost as variable for some time moving fixed cost per unit.

Step2. Find out assumed contribution margin per unit.

$$\text{Assumed CMPU} = \text{SPPU-regular VCPU- assumed VCPU}$$

Step3. Finds out the range where BE possibly lies

$$\text{BE range} = \frac{\text{Constant fixed cost}}{\text{Assumed CMPU}}$$

Step4. Estimate fixed cost for the range.

Step5. Determine actual BE sales volume

$$\text{Break-even sales in units} = \frac{\text{Estimate fixed cost}}{\text{CMPU}}$$

**(ii) Trial and Error method:** - In this method, we make the contribution equal to fixed cost which BEP get the contribution equal to fixed cost is called required BEP. We can express in the following process: -

Step-1, At first calculates normal BEP from the given total fixed cost and find out the contribution at the calculated BEP. If contribution is less than fixed cost then we go to next step.

Step-2, Again we calculated BE volume at revised fixed cost and compute contribution at this volume and fixed cost at this volume. If contribution equal to revised fixed cost, then we get the final solution, if not we continue above process.

**2.7 Break-even Sales volume of a multi-product firm:** - Many firm however, produce or sell more than one product for example, JCF Ltd. In multi-product firms, sales mix is an important factor where sales mix means the ratio of the sales of products. It is used to determine overall Break-even point. If the sales mix changes, the cost volume profit relationship also change due to difference in their contribution margin on account of difference in selling price, variable cost etc. As different production may have different contribution margin, change in sales mix causes the changes in BEP as well as expected income. Though, the manager desire to maximize sales of their products, limited resources compel them to constrain on the sales of the most profitable sales mix achievable. Profitability of the given products may be helpful for executive to emphasize or deemphasize particular product but profitability can not be a sole factor to guide decisions relating to sales mix. It will be clear when we take into account the production constraint that limit the firm operating at a volume or push-up a mix desired to meet its profit plan. BEP and overall BEP of single product firm were same but in multi product firm, product BEP and firm's BEP differed. The firm's or company BEP is calculated by following way: -

$$(i) \text{ Firm's BE sales in unit} = \frac{\text{Total Fixed Cost}}{\text{Weighted CMPU}}$$

Where, Weighted CMPU =  $\sum \text{weight} \times \text{CMPU}$

$$\text{Or, Weighted CMPU} = \frac{\text{Total Contribution Margin}}{\text{Total sales unit}}$$

$$(iii) \quad \text{Firm's BE sales in rupees} = \frac{\text{Total Fixed Cost}}{\text{Weighted PV ratio}}$$

Where, Weighted PV ratio =  $\sum \text{weight} \times \text{PV ratio}$

$$\text{Or, Weighted PV ratio} = \frac{\text{Total Contribution Margin}}{\text{Total sales in rupees}}$$

**2.8 Selling Price planning in CVP Analysis:** - CVP Analysis assume constant selling price per unit. Therefore, the graphical revenue line is straight. This simplifying assumption is made for two practical reason. 1<sup>st</sup> the affect of the budgeted sales prices should be shown and 2<sup>nd</sup> the sales line shows the combined results of volume, units and sales price. Any attempt to show the effect of changes in unit selling price on sales volume involve price and demand theory. However, it is possible to reliable estimate of the net effect of a price increase or decrease on units that could be sold, the analysis could show a non linear sales plan with a non-linear sales line.

**2.9 Cost Variability in CVP Analysis:** - CVP Analysis is based on the concept of cost variability i.e. all expenses can be classified as fixed, Variable and semi- variable cost. Further, semi-variable cost or mixed cost can be classified into fixed cost and variable cost. Hence, CVP Analysis builds on variable costing or contribution margin approved. It usually assumes straight line relationship. The assumption that the fixed costs remain constant at all level of output and the variable costs vary proportionately at all level of output is not always true. Hence, CVP Analysis has meaning only within relevant range, where, operational



condition and management policies are assumed to be relatively consistent; therefore the result should be predicable on a straight line basis. Outside the range, different operational condition and management policies will usually cause a completely new pattern of cost variability and consequently new revenue, cost and profit relationships.

### **2.10 CVP Analysis under constraints or limiting factors:** - Cost-

Volume- Profit Analysis is useful for profit planning. CVP Analysis also helps to produce required level of output on desired profit. It helps to get target sales but, in reality, it is not possible to do because of some constraints such as availability of raw material, labor and machine. In the presence of production constraints, the high contribution margin product may no longer be the most profitable i.e. profitability may be affected by other factors beyond the contribution margin. The production constraints affect the profitability. We can classify the productions constraints into two parts. They are as follows: -

**(i) Single Production Constraints:** - Single production constraint exists when producing goods by only one resource. For example, if all the firm's products required same raw materials, then the firm's output will be limited by the available quantity of basic raw materials. Likewise if all the firm's products required the same labor, and then the firm's output will be limited by the available labor hours.

In presence of single production constraint whatever it may be the correct criterion for judging product profitability if contribution margin per unit of critical factor or scarce resource is not according to contribution margin per unit. Scarce resources will be allocated to that product which have higher contribution margin per unit of critical

factor. We can derive contribution margin per unit of critical factor by following formula,

$$\text{CMPU of critical factor} = \frac{\text{CMPU}}{\text{Contribution of critical factor per unit}}$$

**(ii) Multi Production Constraints:** - Multi production constraints exist when more than one resource limits the quantity that can be produced any time in an aggregate manner. In situation of multiple productions, contribution margin per unit of critical factor approach which uses in single production constraint does not work. As ranking of products, different constraining resources will generally differ. So, linear programming model helps us to make an optimal allocation or to determine an optional product mix.

Linear programming is a mathematical technique for finding the best uses of a firm's limited multi resources. The basic requirements of a linear programming problem that fits to multiple production constraints are as follows: -

- a) There must be an objective the firm wants to achieve i.e. profit maximization or cost minimization.
- b) Profits are not liner to sales volume and contribution is the appropriate term to be used instead of profit.
- c) There must be alternative courses of action one of which will assist in achieving the objective.
- d) Resources or facilities must be in limited supply
- e) The variability in the problem must be inter-related.
- f) Objectives and constraints must be able to be expressed as mathematical equation or inequalities and these must be linear equations or inequalities.

There are different approaches to address linear programming problem. For simplicity, we can use graphical method by following steps: -

Step-1, Restate the information in mathematical form.

Objective function:

$$\text{Profit maximization (} p_{\max} \text{)} = \dots X + \dots Y$$

Or

$$\text{Cost minimization (} C_{\min} \text{)} = \dots x + \dots y$$

Where, x and y denotes the no. of units produce of products.

Subjective function or Subject to constraints: -

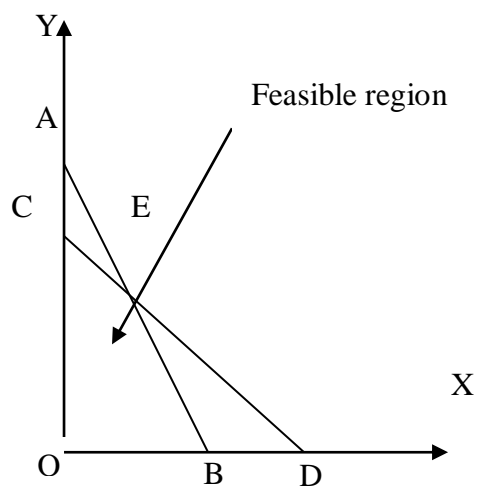
$$\dots x + \dots y \leq \text{or } \geq \dots$$

$$\dots x + \dots y \leq \text{or } \geq \dots$$

$$\dots x + \dots y \leq \text{or } \geq \dots$$

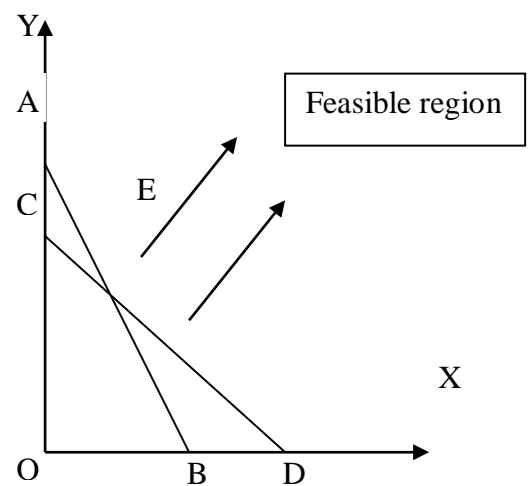
Non-negative function: -  $x \geq 0$  and  $y \geq 0$

Step-3 . Plot the constraints in the problem on graph.



Profit Maximization

Figure no. 2



Cost Minimization

Figure no. 3

Step- Find total cost and total profit from feasible region

Step-Select minimum cost and maximum profit to get optimum solution.

### ***2.11 CVP Analysis under condition of uncertainty:*** - Our

discussion of cost volume profit analysis so far was based on the assumptions that all costs and revenues were known with certainty. This estimate of single value estimate which is far from reality naturally limits the usefulness of CVP analysis for profit planning and other decision purposes. There is a tool in the hands of manager i.e. CVP analysis which should incorporate risk and uncertainty in its parameters.

The basic parameters used in CVP analysis were selling price per unit, variable cost per unit, total fixed cost and the expected sales volume of each product. All of these parameters can be uncertain in a given situation. However, several parameters can be taken as certainly equivalents to simplify analysis. For example, related to the expected sales volume or quantity, the cost and selling price are quite certain. Accordingly, sales volume will be treated as the only uncertain or unknown quantity or as random variable for simplicity.

A possible approach to incorporate risk and uncertainty in CVP analysis is to apply normal distribution theory. A normal distribution theory normally estimates the likely hood than the random variable which will take on various possible values such an estimate is more or less based on personal judgment i.e. is called subjective probability distribution.

The normal probability distribution approach can be used to further analysis the element of risk in cost volume profit analysis. The use of normal probability distribution will enable decision maker to have an idea of the probability of different expected values of sales or cost or profit i.e. the probability of sales or cost or profit having the value of zero or less greater than zero and so on. Thus, the normal probability distribution is an important statistical technique in the hand of decision makers for evaluating the risk-

ness of a firm. The normal probability distribution is a smooth, systematic, continuous, bell shaped curve, shown in the following figure.



Normal distribution curve

Figure no. 4

The parameters of the normal probability distribution are mean and standard deviation. A particular normal probability distribution can be completely determined. If its mean and standard deviation are known. The standard deviation is a measure of dispersion of the distribution about its mean. The larger the standard deviation, the more spread out is the distribution. It is represent by the following formula,

$$Z = \frac{(\text{Expected sales} - \text{Mean sales})}{\text{Standard deviation of sales}}$$

**2.12 Special problems in CVP Analysis:** - CVP analysis is a tool in the hand of management. It is more useful in profit planning. It is used by individuals, business organization, factory, company as their requirement, but CVP analysis has some problems. They are as follows: -

- a) **Problem in selection of suitable activity base:** - CVP analysis is applied to both single product and multi product. There is a problem in selection of activity base to calculate contribution margin ratio. So, we

carefully select production unit in single production and sales volume in multi-product to get satisfactory result.

- b) ***Problem due to change in inventory:*** - If the budgeted changes in inventories are immaterial, they may be disregarded in CVP analysis and in case the changes are significant, they must be included in the analysis. Thus, there are two approaches used in inventory change and include the inventory change which create problem in CVP analysis.
- c) ***Problem in non-operating expenses and income:*** - If amounts are significant, non-operating or extra ordinary expenses and incomes can cause another problem in CVP analysis. The basic issue is whether to include or exclude from the analysis. Usually, the excess is expenses, it would be added in fixed expenses where as the excess is income, it should be deducted from the fixed expenses.

***2.13 Limitation of CVP Analysis:*** - Besides the usefulness of CVP analysis, it has bounded by some limitation. They are as follows: -

- (i) It is difficult to separate cost into fixed and variable cost.
- (ii) It is difficult to use BEP analysis in multi-product firm.
- (iii) It is not correct to assume that total fixed cost remain constant.
- (iv) The assumption of constant selling price and variable cost per unit in not valid.
- (v) It is short run concept, so it is not useful in long run.
- (vi) The CVP analysis is a static tool.

***2.14 Sensitive study of CVP Analysis under change condition:***

- Profit is the function of a variety of factors. It is affected by changes in volume, cost and prices. Profit may be affected by the changes like, increase or decrease in the following factors:-

- a) *Change in selling price:*** - An increase in the selling price will increase the p/v ratio and as a result, will lower the break-even point. On contrary, a decrease in selling price will reduce the p/v ratio and as a result, will higher the break-even point.
- b) *Change in variable cost:*** - The change in variable cost and remaining factors constant then. Increase in variable cost will lower p/v ratio push up the BEP and reduce profit. On the other hand, decrease in variable cost will increase profit due to fall in BEP and increase in p/v ratio.
- c) *Change in fixed costs:*** - Change in fixed cost does not affect the p/v ratio but it affects BEP and profit. If fixed cost increase, the BEP raise and profit fall on the other hand, decrease the fixed cost will fall BEP and increase in profit.

**2.15 *Operating Leverage and CVP Analysis:*** - Operating Leverage is the measure of the extent to which fixed cost are being used in organizations. The relationship of a company's variable cost and fixed costs are reflected in Operating Leverage. Generally, highly labor intensive companies have high variable cost and low fixed cost that's why they get low Operating Leverage and highly capital intensive companies have low variable cost and high fixed cost that's why they get high Operating Leverage. It indicates that variable costs have indirect relation and fixed costs have direct relation with Operating Leverage. Operating Leverage is calculated as under.

$$\text{Operating Leverage} = \frac{\text{Sales-Variable cost}}{\text{Sales-Variable cost-Fixed cost}}$$

**2.16. Cost Structure and CVP Analysis:** - Cost structure refers to the relative portion of fixed cost and variable cost in an organization. The relation of a company's variable and fixed cost is reflected in CVP Analysis. The highly incentive organization have high variable cost and low fixed cost that's why the organization has get lower Break-even point. Conversely, the highly capital incentive organizations have low variable cost and high fixed cost, that's why the organizations have got high Break-even point.

**2.17. Methods of Segregation of Semi-Variable Cost in CVP**

**Analysis:** - CVP Analysis requires segregation of all costs into fixed and variable. That's why semi-variable costs need to be segregated into fixed costs and variable costs. There are various methods of segregation of semi-variable costs such as mention bellow.

**(i) High-low Method:** - This method assumes that the change in semi-variable or semi-fixed cost is caused by variation in output or activity. Thus, variable cost per unit can be obtained by dividing changes in semi-variable cost with corresponding changes in outputs or activities. Under this method, we calculate fixed cost and variable cost per unit in the following way.

$$\text{Variable cost per unit (b)} = \frac{\text{High cost} - \text{Low cost}}{\text{High unit} - \text{Low unit}}$$

$$\text{Or, Variable cost per unit (b)} = \frac{\Delta \text{cost}}{\Delta \text{output}}$$

Fixed cost (a) = Total semi-variable cost – variable cost per unit X units of output or activity

$$\text{Or, Fixed cost (a)} = Y - bx$$

Where, Y = Total Semi-variable cost

b = Variable cost per unit

x = Output in units



**(ii) Least Square Method:** - It is statistical method which is more appropriate than High-Low method because it takes all the data for analysis. It is a statistical procedure for estimating mathematically the average relationship between the dependent variable (y) and independent variable (x). This method is based on the linear equation;  $y = a + bx$ .

Where, y = Total semi-variable cost (dependent variable)

a = Fixed cost

b = Variable cost per unit

x = Output in units (independent variable)

We can be obtained fixed cost (a) and variable cost (b) by the following regression equation.

$$\text{Variable cost per unit (b)} = \frac{N\sum xy - \sum x \sum y}{N\sum x^2 - (\sum x)^2}$$

$$\text{And Fixed cost (a)} = \frac{\sum y - b\sum x}{N}$$

$$\text{Or, } a = y - bx$$

**(iii) Degree of Variability Method:** - In this method, degree of variability is noted for each items of semi-variable cost. Some semi-variable cost may have 30 % variability while others may have 70 % variability. This method is easy to apply but difficulty can be faced determining the degree of variability.

**(iv) Scatter- Graph Method:** - In this method, the given data are plotted on a graph paper and line of best fit is drawn, whereas semi-variable cost is plotted on the y-axis and activity is plotted in x-axis. The cost at any level can be known by noting difference between fixed cost and total cost lines then plotted corresponding to each volume of production cost, after that a line parallel to the horizontal axis is drawn

from the point where the line of best fit intersect the vertical axis i.e. called fixed cost line and a straight line of best fit is drawn through the points plotted i.e. called total cost line where this line intersects the vertical axis is taken to be the amount of fixed cost.

### **2.18 A brief Review of previous research works:** - “Use of CVP

Analysis in profit planning” is most required in the area of business. Many firms take it into practice but a lot of firm which is away from use of CVP Analysis tools. Many researches have been made in the area of profit planning and controlling. Those researches are more necessary for reviews of literature in some researches that are available in the context of Nepal are reviewed as under.

**(A) The study of Mr. Rijal:** - Mr. Madhav Rijal (2003) had conducted a research entitled “CVP Analysis as a tool to measure effectiveness of profit planning and control a case study of Nebico Private Limited”

His research is based on secondary data as well as on secondary data and information. Stratified questionnaire method is used to collect primary and raw data. His study has made great impact in the area of Nepalese organization; whether Nepalese organization can practice CVP Analysis and make improvement through it or not CVP Analysis tool is effective for profit planning can be figured out. Through his outstanding research, we can find out some recommendable findings and suggestion. Some of remarkable findings were as follows.

- (i) No clear and defined guideline for objectives, responsibility and duties.
- (ii) No, classification of items is done as fixed and variable.
- (iii) Lack of decision making power at middle and lower level.
- (iv) Lack of effective inventory policy.
- (v) Lack of effective controlling tools to reduce unnecessary costs.

- (vi) Need to establish a separate research and development department for better result in future.
- (vii) Need of a systematic approach towards comprehensive profit planning.

**(B)The study of Mrs. Ghale:** - Mrs. Sujita Ghale had conducted a research on a topic “CVP Analysis as tools of profit planning and control, a case study of Nebico Private Limited” in 2006.

His study is based on primary data as well as secondary data covering the fiscal year 2057/58 to 2061/62. She is using the interview, financial statement and questionnaire method for data collection. Her study is mainly focused on sensitivity analysis of costs. Her major findings are as follows.

- (i) There is lack of skilled employees to prepare budget and analyze their financial position in Nebico Private Ltd.
- (ii) Nebico has relatively high fixed i.e. interest, depreciation, repair, salary and wages, provident fund subsidy.
- (iii) There are no detailed lists of fixed, variable and mixed costs.
- (iv) Sales trend of the company is fluctuating.
- (v) Variable cost of company is relatively higher than fixed cost and a total cost is harmful for overall profit of company.
- (vi) Nebico has no any plans or technique to reduce costs.
- (vii) Goals of Nebico are not communicated to all levels.
- (viii) Nebico has weak inventory policy i.e. raw materials handling, stocking and controlling systems are not systematic and efficient.
- (ix) Lack of new and systematic techniques of forecasting sales and purchase.
- (x) Nebico is not utilizing its full capacity.
- (xi) Nebico is used only one way of communication.
- (xii) There is over male employees and low female employees.

(xiii) There is lack of proper co-ordination among the production, sales and inventory department.

**(C) *The study of Dr. Suryanath Mishra:*** - Dr. Suryanath Mishra conducted a research work on topic “A study on Financial Statement Analysis of JCF Ltd.” in 1983. The study based on ten years data from fiscal year 2028/29 to 2037/38. He is the first researcher on financial aspect of JCF Ltd. His study based on financial statement analysis of JCF Ltd with the objective of assessing the financial position and profitability with a view to providing financial guidelines to the management and to the creditors for taking relevant decisions. In his study the following findings are find out.

- (i) Starting liquidity position of JCF was poor due to excessive inventories.
- (ii) Inventory policy of JCF Ltd was not good.
- (iii) The reason of low liquidity position and bad inventory policy is blockage of stock.
- (iv) From the creditor’s point of view, the profitability position and investment policy were satisfactory.
- (v) Long-term solvency policy of JCF Ltd is satisfactory.
- (vi) The inventory turnover i.e. 2.7 times was quite below than normal due to large pilling up of tobacco stocks in excessive of requirement.
- (vii) The capital structure of JCF Ltd was low geared.
- (viii) Net worth indicating the safety for creditors to get loan.
- (ix) The JCF Ltd had no long-term debt and it could not benefit from investing on equity.
- (x) Net profit margin decreased to 3.7 percent in 2037/38 from 12.7 percent in 2028/29.
- (xi) The average return on equity was 9% which is lower than standard.

**(D) *The study of Mr. Karna:*** - Another study was conducted by Mr. Sanjay Kumar Lal Karna on the topic “Analyzing financial statement of JCF Ltd” in 2000. A main objective of this study was to give true picture of financial condition. In this study, he finds out something. They are as follows.

- (i) Profit earned by JCF Ltd was not satisfactory.
- (ii) Profitability of JCF Ltd was un-satisfactory.
- (iii) There is lack of long-term programmed.
- (iv) JCF Ltd bears unnecessary costs.
- (v) JCF Ltd has more wastage.
- (vi) Capital Structure of JCF Ltd use low geared leverage.

**(E) *The study of Mr. Agrawal:*** - This study was conducted by Mr. Anilkumar Agrawal on the topic “working capital management of cigarette industry in Nepal with special reference to JCF Ltd” in 2005. This study was focused on the tools used by JCF Ltd in capital structure management. From this study, he gets the following findings.

- (i) JCF Ltd used liberal working capital policy.
- (ii) JCF Ltd had poor working capital policy.
- (iii) The JCF Ltd has poor liquidity position because the current ratio and quick ratio were below than standard.
- (iv) Fund flow analysis indicates that funds from operation, income from other sources and sale of fixed assets are the sources of fund and the fund is mainly used in increase of working capital, payment of tax and dividend.

**(F) *The study of Mr. Thapa:*** - This study had conducted by Mr. Suraj Singh Thapa on the topic of “the financial analysis of manufacturing public enterprises in Nepal” a case study of JCF Ltd in 1996. In his study, he used secondary data and adopted only the ratio to evaluate the performance of JCF Ltd. His major findings were as follows.

- (i) Profitability conditions of JCF Ltd were in fluctuating trend.
- (ii) JCF Ltd used liberal working capital policy.
- (iii) JCF Ltd had lower costs of production which affect on the quality.
- (iv) Capital Structure of JCF Ltd was low position.

**(G) *The Study of Mr. Upadhayay:*** - This study was conducted by Mr. Jitendra Prasad Upadhayay on the topic “A financial analysis of manufacturing public enterprises in Nepal” a case study of JCF Ltd in 1993. In his study, he had got the following findings.

- (i) Profitability position of JCF Ltd is extremely poor.
- (ii) Liquidity position of JCF Ltd is not satisfactory.
- (iii) JCF Ltd has poor working capital policy.
- (iv) Capital point of view also JCF Ltd has not in good position.
- (v) Efficiency of JCF Ltd is indicating that efficient utilization to some extent.
- (vi) JCF Ltd has also excess cost of production, administrative and selling expenses and financial expenses.
- (vii) There is a lack of one cost planning and cost control department in JCF Ltd.

**(H) *The study of Mr. Gautam:*** - This study was conducted by Mr. Ujwal Raj Gautam on the topic “A financial study of manufacturing public enterprises in Nepal” with special reference to JCF Ltd. in 1998. He had got the following findings.

- (i) JCF Ltd. is unable to reduce cost of production and cost of operation. E.g. cost of goods sold constitutes 87% of sales.
- (ii) Liquidity position of JCF Ltd found low so it is indicating that poor working capital management policy.
- (iii) JCF Ltd has not given preference to long-term debt financing.

- (iv) Profitability position of JCF Ltd. is not satisfactory.
  - (v) The JCF Ltd had not seemed to have utilized its resources.
  - (vi) Fund flow analysis indicates that funds from operation, income from other sources and sale of fixed assets are the sources of fund and the fund is mainly used in increase of working capital, payment of tax and dividend.
  - (vii) The JCF Ltd is not replacing old technology and not introducing computer information system.
  - (viii) The JCF Ltd has just used 10 % of full capacity.
  - (ix) There is confusing in pricing due to low standard of the collected tobacco, absence of strategically effective marketing tools and program and substantially low employee productive in terms of our staffing.
- (I) *The study of Mr. Yadav:*** - This study was conducted by Mr. Ram Dyal Yadav on the topic “Financial position of Janakpur Cigarette Factory” in 2005. The major findings of this study were as follows.
- (i) The JCF Ltd has poor liquidity position because the current ratio and quick ratio were below than standard.
  - (ii) The gross margin ratio is lower than the standard 30 %.
  - (iii) The view point of profitability, Net profit margin and gross profit margin shows unfavorable financial position with poor profitability where as return on total assets return on capital employed and return on shareholder’s equity also not satisfactory. So, overall the profitability of JCF Ltd depicts low.
  - (iv) In the view point of Activity ratio, the inventory turnover ratio, debtor turnover ratio and shorter average collection period of JCF Ltd are indicated that effective utilization of resources and appropriate collection policy.
  - (v) The capital structure of JCF Ltd is found low-gearred leverage and the contribution of finance by the owner’s is extremely low which may prove dangerous adverse situation in future.

**(J) *The study of Mr. Sah:*** - This study was conducted by Mr. Rajesh Kumar Sah on the topic “fixed assets management of cigarette industry in Nepal” with special reference to JCF Ltd. The major findings of this study were as follows: -

- (i) The portion of gross block and net block showed an unsatisfactory position towards the structure of fixed assets of the factory.
- (ii) The factory is not operating at its full capacity that's why the growth in gross block is much higher than the decline in net fixed assets.
- (iii) The coefficient of correlation between fixed assets and net worth of the factory was very low i.e. 0.17 which indicated that a definite policy for financing fixed assets is not followed.
- (iv) The sales to fixed assets ratio of the factory showed a decreasing tendency at first three years after that increasing tendency.
- (v) The return on fixed assets became negative 12.56 % it means that the investment in fixed assets of the factory is not profitable.
- (vi) The JCF Ltd had not followed the stable policy of charging depreciation on fixed assets

**2.16 *Research Gap:*** - The gap between two researches is called research gap. In other words, the gap between this study and previous study is known as research gap. The previous study can not clear about use of CVP Analysis but this study is clear-cut study to find out something. From this study, the JCF Ltd can manage its objectives easily. It gets its target profit by applying CVP analysis. This research is the first study in JCF Ltd on the topic “Use of CVP analysis in profit planning”.



# 3. Research Methodology

**Introduction:** - Research methodology is a process of arriving to the solution of problem through planned and systematic dealing with the collection, analysis and interpretation of the facts and figures. “Research methodology is a way to systematically solve the research problem. It may be understood as a science of study how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them. It tries to make clear view of method and process adopted in the entire aspect of the study. It is known as a path from which we can systematically solve the research problem.

**3.1 Research design:** - Research design helps the researcher to obtain answer to the question of research and also help him to control the extraneous and error variance of particular research problem under study. Thus, it is not possible for a researcher to conduct a research project without a research design. In this study, attempt is being to show the relationship among cost, volume and profit of JCF Ltd. To accomplish the objective, it has adopted the descriptive and analytical type of research design. It describes and analyses all the facts that have been collected for the purpose of the study. A study design is the arrangement of condition for collection and analysis of data in the manner that aims to combine relevance to the study with economy in procedure. This study is based on the analysis of past financial performance and primary data.

**3.3 Population and Sample:** - This study is based on revenue planning and cost-volume-profit analysis of JCF Ltd. Therefore, no specific product or

branch is taken for analysis but the whole is considered for analysis through financial data available.

**3.4 Nature of data:** - The necessary data have been collected from the annual financial statement prepared by Concern Company. Data are also collected through various articles, journals, booklets, magazines, newspaper, published and unpublished report from RRM campus Janakpurdham's library. The study required the formal and informal interviewing with some Professors, Lecturers and Persons who are concerned with the study.

**3.5 Data processing :-** Though, the existing formats of income statement and balance sheets of Janakpur Cigarette Factory contain the basic data required for the study, they are clumsy and as such required a lot of adjustment for a powerful analysis. Hence, the income statement and balance sheet obtained from the factory have been made and presented in a condensed form. The figure taken from the income statement and balance sheet have been rounded off unto two decimal placed in thousand of rupees with a view to facilitating their analysis.

**3.6 Tools for data analysis:** - For analysis of data, there are main two tools one is financial tools and other is statistical tools. In this study, we applied CVP analysis as a financial and percentage, average, range etc. as statistical tools. In CVP analysis, we used contribution margin analysis, margin of safety analysis, target profit analysis, target sales analysis, BEP analysis. Tools are described as under.

A. Financial tools

B. Statistical tools

**(A) Financial tools:** - The accounting tools used in analysis are called financial tools e.g. costs analysis, sales trend analysis, contribution margin analysis, margin of safety analysis, BEP analysis, operating leverage etc.

**a) Cost Analysis:** - By this financial tool, we can be analyzed the total cost by table and graph. We classified the total costs into following costs.

- (i) Costs of Sales
- (ii) Administrative cost
- (iii) Selling and distribution cost
- (iv) Financial cost

**b) Sales trend analysis:** - By this financial tool, we can be analyzed the sales is increasing way or decreasing way in comparison with last year sales by table and graph. We calculated by the following formula.

$$\text{Increase or decrease in sales} = \frac{\text{Current year sales} - \text{last year sales}}{\text{Last year sales}}$$

**c) Fixed cost analysis:** - By this financial tool, we can be analyzed the total fixed is increasing or decreasing way by table and graph.

**d) Variable cost analysis:** - By this financial tool, we can analyzed the total variable cost is increasing or decreasing way by table and graph.

**e) V/C ratio analysis:** -The ratio of total variable cost and total sales revenue is called v/c ratio. By this financial tool, we can be analyzed that the percentage or portion of variable cost in sales volume. It is calculated by following formula.

$$\text{V/C ratio} = \frac{\text{Total variable cost}}{\text{Total sales volume}}$$

**f) C/M ratio:** -The ratio between contribution margin and total sales is called c/m ratio. By this financial tool, we can be analyzed that percentage or portion of contribution margin in total sales by table and graph. It is calculated by the following formula.

$$\text{C/M ratio} = \frac{\text{Total contribution margin}}{\text{Total sales volume}}$$

**g) BEP analysis:** - The Break-even Point is that point where the business firm does not earn profit and does not bear loss. It is also called financial BEP. By this financial tool, we can be found the point where company does not earn profit and does not bear loss. It is calculated by the following formula.

$$\text{BEP in Rs.} = \frac{\text{Total operating fixed cost}}{\text{CM ratio}}$$

**h) Cash BEP analysis:** - The sales, which produces no cash in hand, is called Cash BEP. By this financial tool, we can be found that point of sales which covers all cash expenses. It is calculated by the following formula.

$$\text{Cash BEP} = \frac{\text{Total Operating Fixed Cost} - \text{Depreciation}}{\text{CM ratio}}$$

**i) Financial BEP:** - The sales, which generates zero earning per share (EPS) is called Financial BEP. We can be found that sales level which covers financial expenses. It is calculated by the following formula.

$$\text{Financial BEP} = \frac{\text{Operating fixed costs} + \text{Interest}}{\text{CM ratio}}$$

**j) Operating Profit to Sales ratio:** - The ratio between Operating profit (EBIT) and sales revenue is known as Operating profit ratio. By this financial tool, we can be ascertained the portion or percentage of operating profit to sales. It is calculated by the following formula.

$$\text{Operating profit ratio} = \frac{\text{EBIT}}{\text{Total sales}}$$

**k) Operating Leverage of JCF Ltd:** - Operating Leverage is the measure of the extent to which fixed cost are being used in organizations. The relationship of a company's variable cost and fixed costs are reflected in Operating Leverage. By this financial tool, we can be analyzed that the

relationship between variable cost and fixed cost with operating leverage. It is calculated by the following formula.

$$\text{Operating Leverage} = \frac{\text{Sales-Variable cost}}{\text{Sales-Variable cost-Fixed cost}}$$

**(B) Statistical tools:** -The mathematical tools used in analysis of data are called Statistical tools e.g. average, percentage, standard deviation, correlation etc.

a) **Average:** - An average is a single number which is used to represent a collection of data. An average of the given data is calculated by adding them together and dividing the total by the number of data. The formula is given below.

$$\text{Average} = \frac{\text{Total sum of the data}}{\text{No. of data}}$$

b) **Percentage:** - Percent means per hundred or out of hundred. The symbol “%” is usually written instead of the words percent.

c) **Tabulation:** - The statistical tool in which we arrange data in row and column is known as Tabulation. There are various tables such as simple table, two way tables and multiple tables. It helps in analyzing data in research work.

d) **Graph:** - Graph is short and sweet analytical tools of data analysis. It helps clear cut analysis of available data. We use simple line graph in this thesis.

## 4. Data Presentation and Analysis

**Introduction:** - Data means the information related with the study which may be collected from primary and secondary source of information. Collected data are analyzed by using various accounting and statistical tools to know about firm's weakness and strength. We decorate it into table, graph, chart is called presentation of data.

For the study "Use of CVP Analysis is profit planning", we have collected data by questionnaire and interview method such as interview with our respective lecturer, professor and account officer of JCF Ltd. In the same way, we obtained secondary data are analyzed by various accounting and CVP tools such as sales plan, variable cost to sales ratio, fixed cost to sales ratio, contribution margin ratio to sales ratio or contribution margin ratio or p/v ratio, operating profit to sales ratio, margin of safety ratio, margin of safety, break-even point, cash BEP, financial BEP, operating BEP and operating leverage and statistical tools such as average, percentage, mean, standard deviation, coefficient of variance etc. After analysis data we present the analysis in the form of table, chart graph. This study covers the last five years from 2058\59 to 2062\63.

**4.1. Sales Trend Analysis:** - Sales refer to exchange of goods or services with money. In JCF Ltd sales includes the entire amount which comes from sale of different brands of cigarette. The following table shows the sales trend of JCF Ltd on yearly basis.

Table no. 2

Table of sales trend analysis

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Sales revenue	11,92,067	11,61,014	11,36,140	11,53,879	10,88,470	11,46,314
increase or decrease	0	-2.68%	-2.20%	1.56%	-6.01%	-1.866%

In above table, the sales revenue of fiscal year 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs.11,92,067, Rs. 11,61,014, Rs. 11,36,140, Rs. 11,53,879 and Rs. 10,88,470 respectively. The average sales through out the study period are Rs. 11, 46,314. The sales has decreased in fiscal year 2059/60, 2060/61 and 2062/63 by 2.68 %, 2.20 % and 6.01 % and increased in fiscal year 2061/62 by 1.56 % with comparing last year sales. In average the sales are decreased by 1.866%. It is also presented by the following graph.

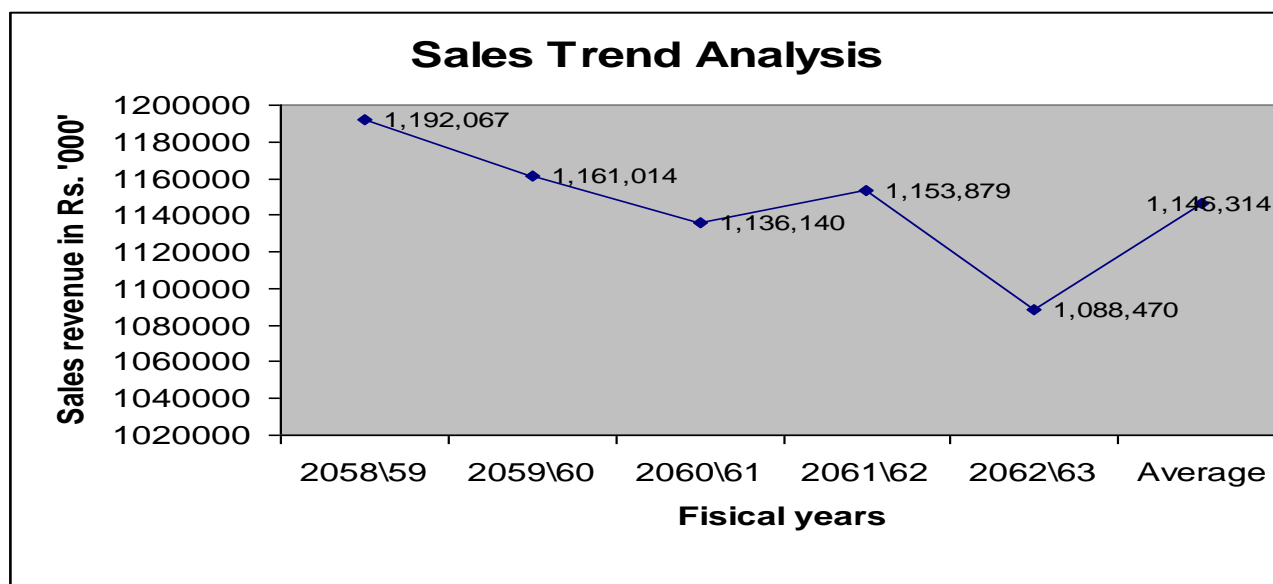


Figure no. 5

In above graph, we also see that the sales of fiscal year 2058/59, 2059/60, 2060/61 and 2062/63 are decreasing trend and only in 2061/62 the sales is increasing trend.

From above table, the sales of JCF Ltd are generally in decreasing trend due to various causes. It can be said that the sales are increase or decrease because of

various external factors such as political situation of the country, government policy, competition market, inflation as well as internal factors such as lack of proper plan, product pricing, market research, and labor union. The main cause of decreasing sales in fiscal year 2062/63 is the political situation of our country.

**4.2. Cost analysis:** - All the expenditure involved in the process of producing goods and obtaining services measured in the terms of monetary value is called Cost. Cost may be variable, semi-variable and fixed. Total cost of JCF Ltd is classified into four categories that are as follows.

- (i) Cost of Sales
- (ii) Administrative costs
- (iii) Selling and distribution costs
- (iv) Financial costs

(i) **Cost of Sales:** - The costs which are related with manufacturing or production of product are known as Cost of Sales. It is semi-variable cost where 11 % fixed and 89 % variable in average. JCF Ltd includes the following expenses under cost of sales such as factory rent, rates, heating and lighting, depreciation, repair and maintenance of factory building, plant and machinery, wages and salaries of workers, cost of tobacco, material handling charges, provident fund contributions by employer, insurance of factory premises, carriage charge on tobacco, store overheads etc.

(ii) **Administrative costs:** -The costs related with office, administrative and management is known as Administrative costs. It is also semi-variable cost where 39 % fixed and 61 % variable. JCF Ltd includes following expenses under administrative costs such as office rents and rates, office heating and lighting, depreciation of office building, insurance premium of office staff, repair and maintenance of office equipment and furniture, salaries to staff, postage and telephone



charges, electricity charges, printing and stationery charges, legal charges, bank charges etc.

**(iii) Selling and distribution costs:** - The costs related with selling and distribution is known as selling and distribution costs. It is also semi-variable cost where 29 % fixed and 71 % variable costs. JCF Ltd includes the following expenses under selling and distribution expenses such as salaries, commission, traveling expenses of sales man, marketing department expenses, advertising expenses, packing charges, ware houses expenses, carriage and freight outward, discount etc.

**(iv) Financial Costs:** -The costs related with share, debenture and loan is known as financial costs. JCF Ltd includes interest expenses under this heads.

Table no. 3

Table of Total costs of JCF Ltd

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
cost of sales	8,87,342	8,85,485	8,64,827	8,63,828	8,41,995	8,68,695.4
Administration costs	1,50,860	1,47,415	1,56,060	1,56,631	1,35,919	1,49,377
Selling & distribution costs	83,120	92,627	93,519	99,126	88,297	91,337.8
Depreciation	6,747	7,111	6,930	6,708	7,269	6,953
Interest expenses	12,355	14,709	13,611	10,759	11,463	12,579.4
Total costs	11,40,424	11,47,347	11,34,947	11,37,052	10,84,943	11,28,943

In above table, the cost of JCF Ltd total cost in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 1140424, Rs. 1147347, Rs. 1134947, Rs. 1137052 and Rs. 1084943 respectively and average cost is Rs. 1128943. It is also presented by the following graph.

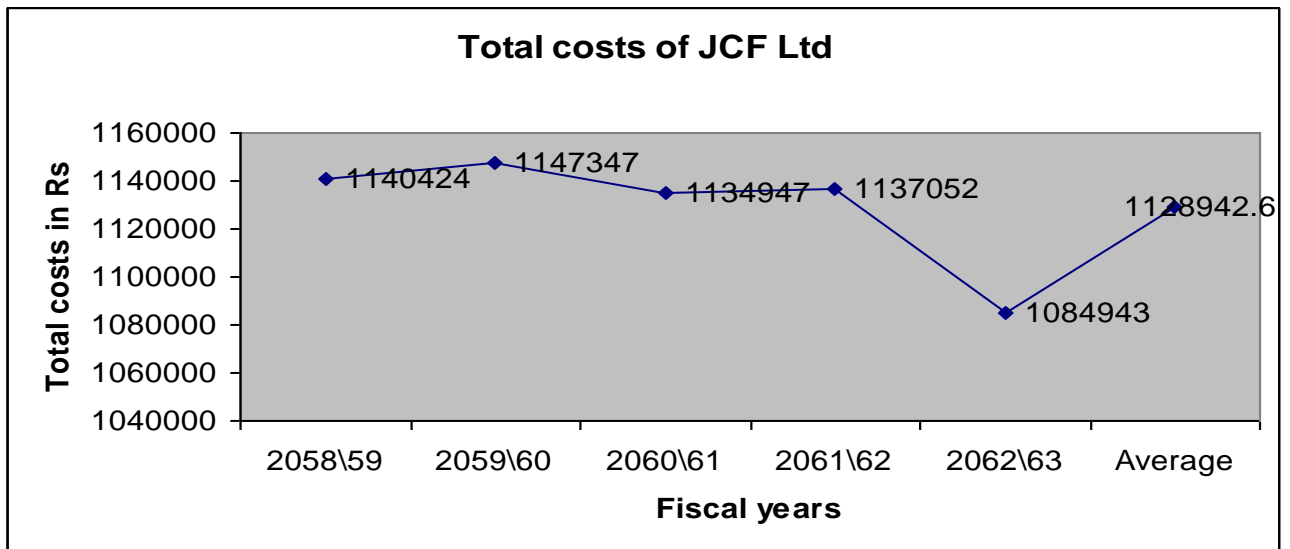


Figure no.6

In above graph, we plotted fiscal years in X-axis and total cost in Y-axis. It is clear that total costs of JCF Ltd are in decreasing trend.

**4.3. Variable Cost Analysis:** - The costs which are directly varied with volume of activity are called Variable Costs. We have analyzed the variable costs of JCF Ltd by the following table.

Table no. 4

#### Table of Variable Costs Analysis

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Costs of sales	793362	794049	774545	764908	739935	773359.8
Administration costs	92025	89923	95197	95545	82911	91120.2
Selling & distribution costs	42391	47240	47695	50554	45031	46582.2
Total variable cost	927778	931212	917437	911007	867877	911062.2
Increase or decrease	0	1%	-1.02%	-1.01%	-1.05%	-0.42%

In above table, the variable cost of JCF Ltd have increased in fiscal year 2059/60 by 1% and decreased in fiscal year 2060/61, 2061/62 and 2062/63 by 1.02 %, 1.01 % and 1.05 % respectively. In average, the variable cost of JCF Ltd is decreased by 0.42 %. The main cause of decrease in variable cost is the decrease in sales revenue. It can be also presented by the following graph.

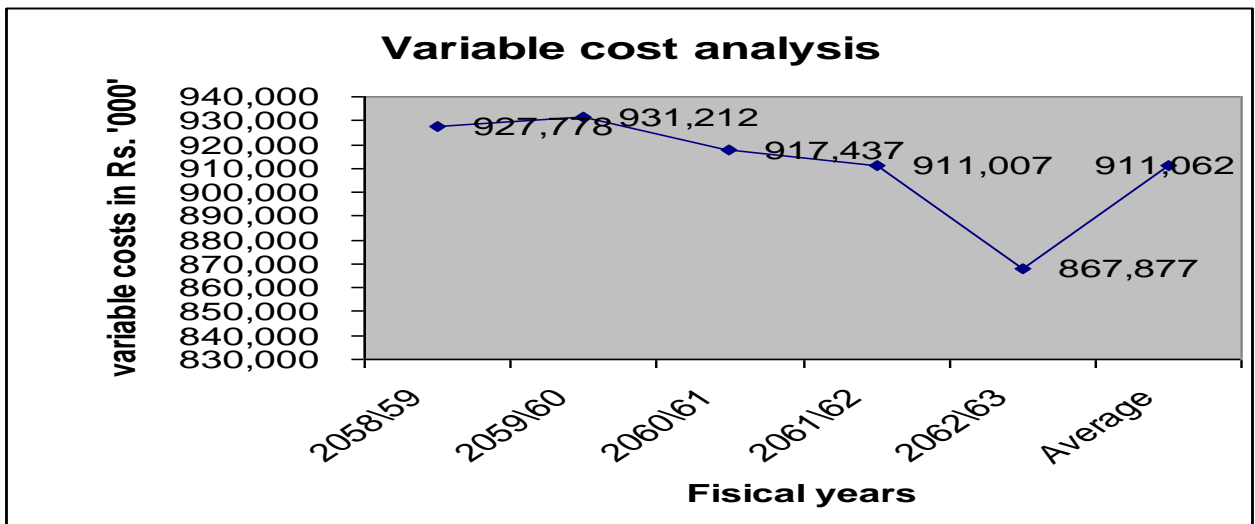


Figure no. 7

In above graph, variable cost is increased from fiscal years 2058/59 to 2059/60 and after that decrease in subsequent year.

**4.4. Fixed Costs Analysis:** - The costs which remain constant or do not vary with level of activity are called fixed costs. Total Fixed costs of JCF Ltd have been included costs of sales, selling & distribution costs, administrative costs, depreciation and interest where except interest is called operating fixed costs. We have studied fixed costs of JCF Ltd by following table.

Table no. 5

## Table of Fixed Cost Analysis

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Costs of sales	93980	91436	90282	98920	102060	95335.6
Administration costs	58835	57492	60863	61086	53008	58256.8
Selling & distribution costs	40729	45387	45824	48572	43266	44755.6
Depreciation	6747	7111	6930	6708	7269	6953
Total operating fixed costs	193544	194315	196969	208578	198334	198348
add: - Interest expenses	12355	14709	13611	10759	11463	12579.4
Total fixed costs	205899	209024	210580	219337	209797	210927.4

The fixed of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 205899, Rs. 209024, Rs. 210580, Rs. 219337 and 209797. And average fixed cost of JCF Ltd is Rs. 210927.4. Fixed costs must be equal in each accounting year but here the fixed costs of JCF Ltd are different in each year because of internal and external factor of JCF Ltd. We also analyze the fixed costs of JCF Ltd by graph method.

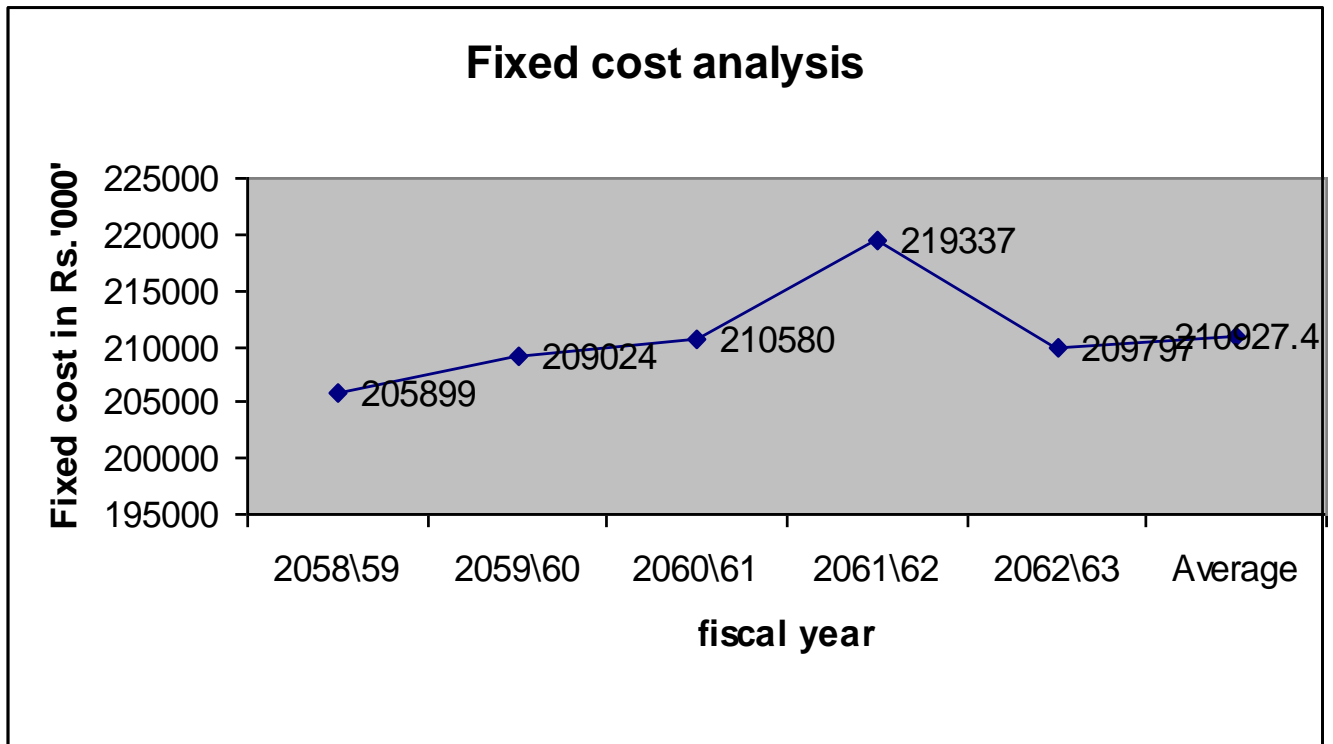


Figure no. 8

In above table, fiscal year is shown in x-axis and fixed costs in y-axis. The fixed costs of JCF Ltd are in increasing way from fiscal year 2058/59 to 2061/62 and decrease in 2062/63.

**4.5. V/C Ratio:** - The ratio between variable costs to sales revenue is known as variable cost ratio. It is also called v/c ratio. It indicates that the percentage of variable cost to sales or portion of variable cost in sales. We have analyzed v/c ratio by following table.

Table no. 6

Tables of Variable Cost Ratio Analysis

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Sales revenue	1192067	1161014	1136140	1153879	1088470	1146314
Total Variable Cost	927778	931212	917437	911007	867877	911062.2
Variable Costs Ratio	77.82935	80.20678	80.75035	78.95169	79.73366	79.47754

In above table, v/c ratio of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are 77.83 %, 80.21 %, 80.75 %, 78.95 % and 79.73 % respectively. The average v/c ratio of JCF Ltd is 79.45 %. It indicates that the 79.45 percent of sales are covered by variable costs. It is analyzed by graph.

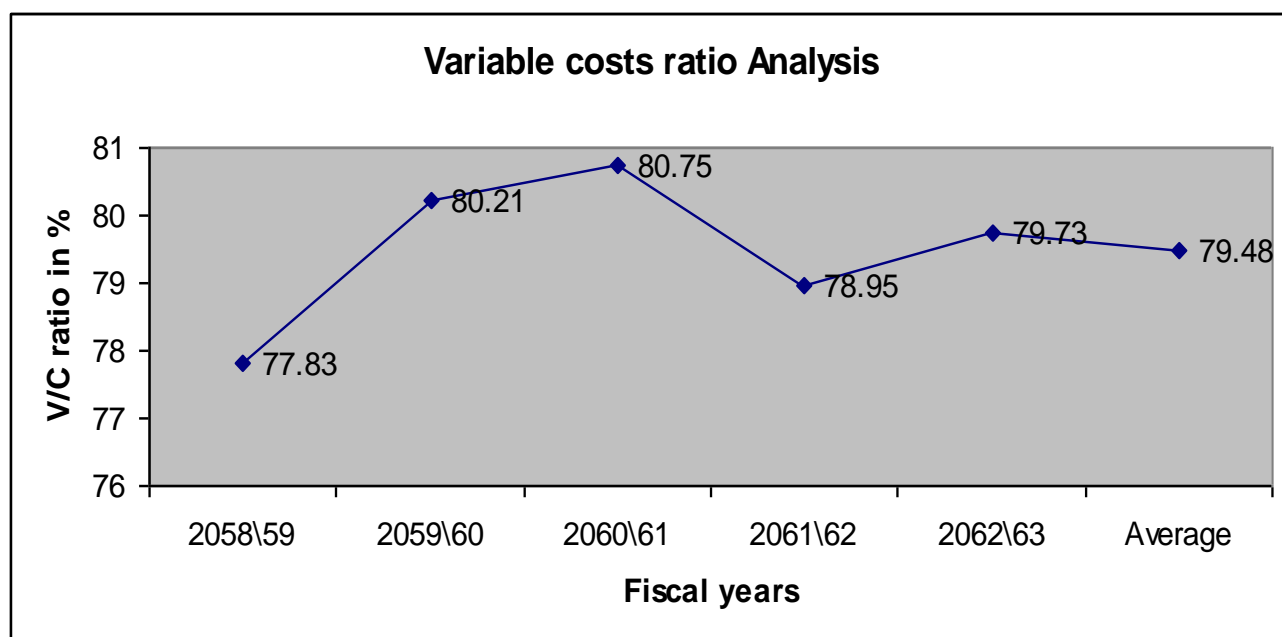


Figure no. 9

In above graph, we put the fiscal years in x-axis and v/c ratio in y-a-axis. The v/c ratio of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are 77.83 %, 80.21 %, 80.75 %, 78.95 % and 79.73 % respectively. The highest v/c ratio in year 2060/61 is 80.75 % and lowest in 77.83 % in 2058/59. There is 79.48 % v/c ratio of JCF Ltd which indicates that 79.48 % of sales are covered by variable cost.

#### **4.6. Contribution Margin Analysis: -**

The difference

between sales revenue and variable cost is known as contribution margin. At BEP contribution margin equals to total fixed costs. The relationship between contribution margins to sales is known as contribution margin ratio. It indicates the percentage of contribution margin in sales. We analyzed it by followings tables.

Table no. 7

Table of Contribution Margin Analysis

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Sales revenue	1192067	1161014	1136140	1153879	1088470	1146314
Less:- Total variable cost	927778	931212	917437	911007	867877	911062.2
contribution margin	264289	229802	218703	242872	220593	235251.8
cm ratio ( cm/sales )	22.17065	19.79322	19.24965	21.04831	20.26634	20.52246

In above table, the contribution margin ratios of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62, and 2062/63 are 22.17 %, 19.79 %, 19.24 %, 21.05 % and 20.67 % respectively. The average contribution margin ratio is 20.52 % which indicates that only 20 percent of sales covered by contribution margin which is very low because of high v/c ratio. It is also depend upon v/c ratio; if v/c ratio is high then c/m ratio is low and if v/c ratio is low then c/m ratio is

automatically high. We can also say that c/m ratio is inversely related with v/c ratio. It can be also analyzed by following graph.

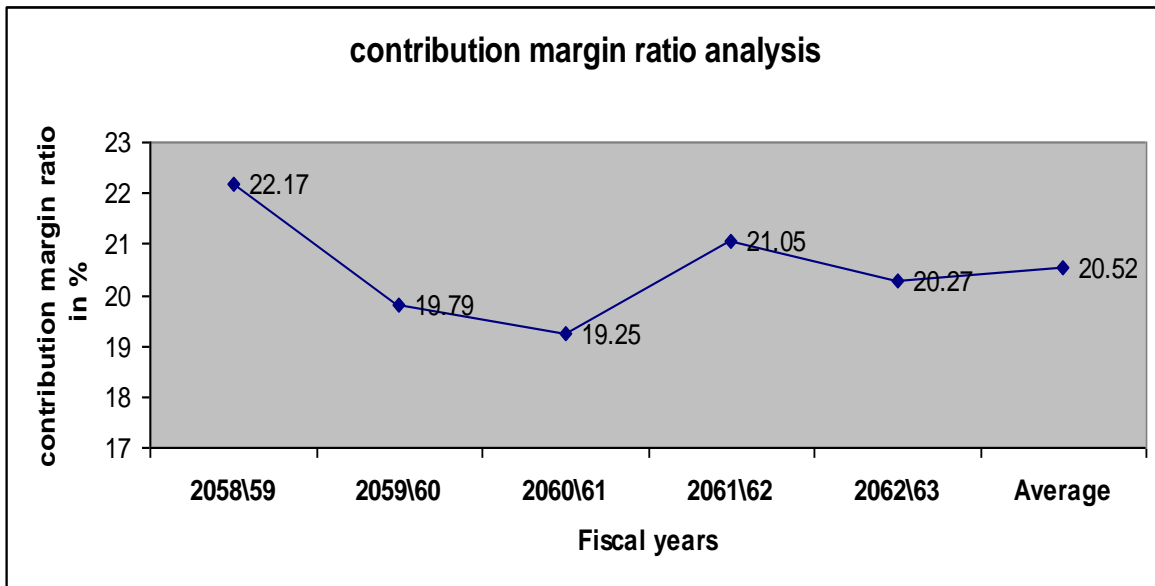


Figure no. 10

In above graph, we see that c/m ratio of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are 22.17 %, 19.79 %, 19.25 %, 21.05 % and 20.27 % respectively. We can conclude that the range of cm ratio is 19 to 23 %. The highest cm ratio of JCF in fiscal year 2058/59 is 22.17 % and lowest in 2060/61 is 19.25 %. It is clear that from above graph that the average cm ratio of JCF Ltd is 20.52 %.

**4.7. Break-even Point of JCF Ltd:** - The Break-even Point is that point where the business firm does not earn profit and does not bear loss. It is also known as no profit any loss point of sales. It is also known as operating BEP. We calculate BEP in Rs. Dividing total fixed cost by cm ratio. It is analyzed by following table.



Table no. 8

Table of Break-even Point

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Total operating fixed costs	193544	194315	196969	208578	198334	198348
cm ratio	22.17065	19.79322	19.24965	21.04831	20.26634	20.52246
BEP in Rs. (tofu/cm ratio)	872974	981725.3	1023234	990949	978637.6	966492.5

In above table, the BEP in Rs. of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 872974, Rs. 981725.3, Rs. 1023234, Rs. 990949 and Rs. 978637.6 respectively. In average, the BEP in Rs. of JCF Ltd is Rs. 966492.5. It is depend upon the cm ratio and operating fixed costs. It is directly vary with operating fixed costs and indirectly vary with cm ratio. It also analyzed by the followings graph.

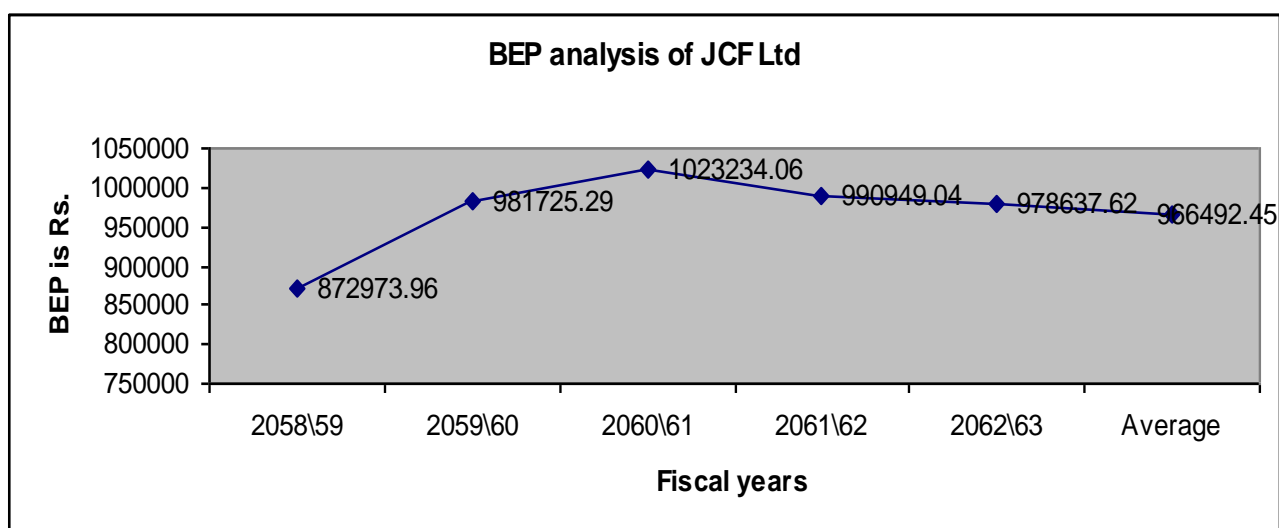


Figure no. 11

In above graph, the BEP in Rs. of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 872974, Rs. 981725.3, Rs. 1023234, Rs. 990949 and Rs. 978637.6 respectively. In average, the BEP in Rs. of JCF Ltd is Rs. 966492.5. There are highest BEP in year 2060/61 and lowest in year 2058/59.

**4.8. Cash BEP of JCF Ltd:** - The sales, which produces no cash in hand, is called Cash BEP. It recovers all cash expenses. We analyzed the Cash BEP of JCF Ltd by following table.

Table no. 9

Table of Cash Break-even Point

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Total operating fixed costs	193544	194315	196969	208578	198334	198348
Less: Depreciation	6747	7111	6930	6708	7269	6953
Operating fixed costs other than depreciation	186797	187204	190039	201870	191065	191395
cm ratio in %	22.17065	19.79322	19.24965	21.04831	20.26634	20.52246
Cash BEP in Rs	842541.8	945798.8	987233.4	959079.5	942770.3	932612.5

In above table, the Cash BEP of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 842541.8, Rs. 945798.8, Rs. 987233.4, Rs. 959079.5 and Rs. 942770.3. In average, Cash BEP is Rs. 932612.5. It means that if JCF Ltd wants to cover all cash expenses, it must sale Rs. 932612.5 in average. Cash BEP indicates the sales which cover the all cash expenses. It also presented by the following graph.

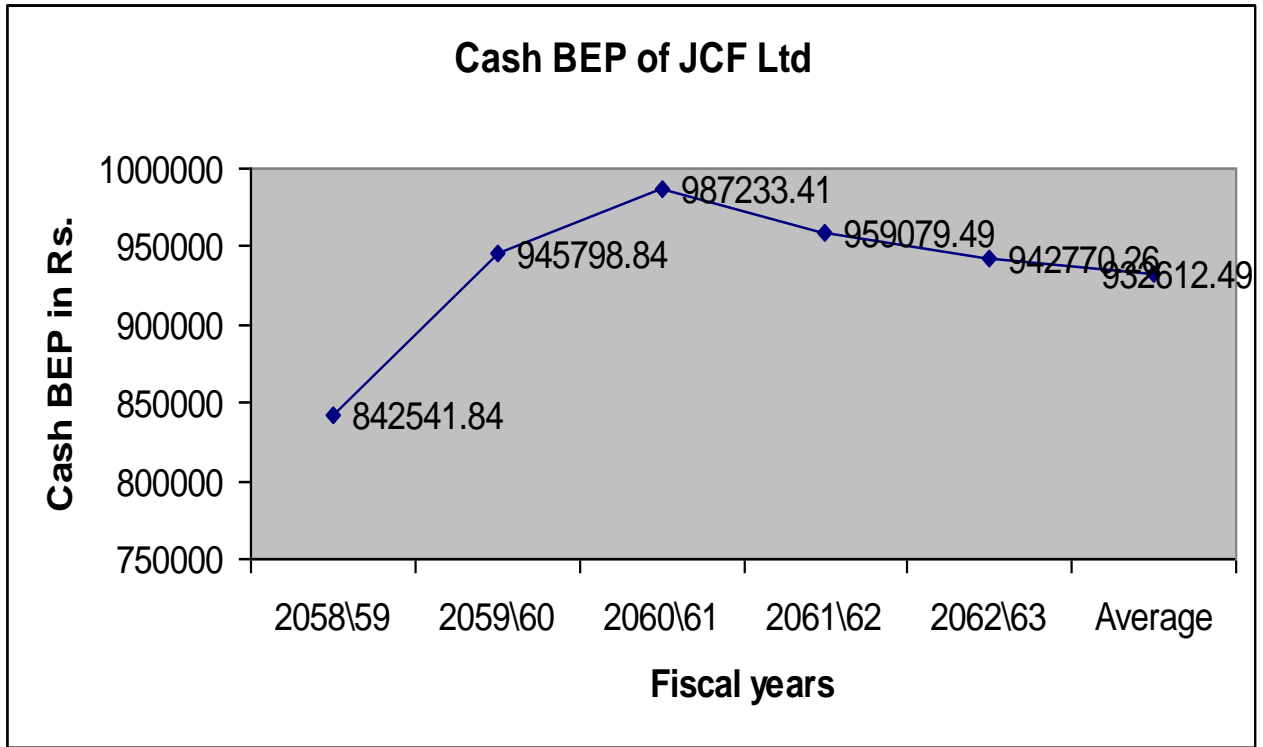


Figure no. 12

From above graph, we put fiscal year in x-axis and cash BEP in y-axis. We see that the JCF Ltd requires high cash BEP in year 2060/61 and low cash BEP in year 2058/59 to cover cash expenses. It also indicates that the JCF Ltd bears the high cash expenses in year 2060/61 and low in year 2058/59.

**4.9. Financial BEP of JCF Ltd:** - The level of sales where EPS is zero is called Financial BEP. It covers financial expenses. We analyzed it by following table.

Table no. 10

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Total fixed costs	205899	209024	210580	219337	209797	210927.4
cm ratio	22.17065	19.79322	19.24965	21.04831	20.26634	20.52246
Financial BEP	928700.8	1056039	1093942	1042065	1035199	1027788
Sales revenue	1192067	1161014	1136140	1153879	1088470	1146314

Table of financial BEP of JCF Ltd

In above table, the financial BEP of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 928700.8, Rs. 1056039, Rs. 1093942, Rs. 1042065 and Rs. 1035199 respectively. The average financial BEP of JCF Ltd is Rs. 1027788. It has highest financial BEP in fiscal year 2060/61 and lowest in fiscal year 2058/59. From the shareholders point of view, the sales must be higher than financial BEP sales. If the firm gets lower sales than financial BEP then shareholders bear loss while the firm gets higher sales than financial BEP then shareholders earn something. It is also analyzed by the following graph.

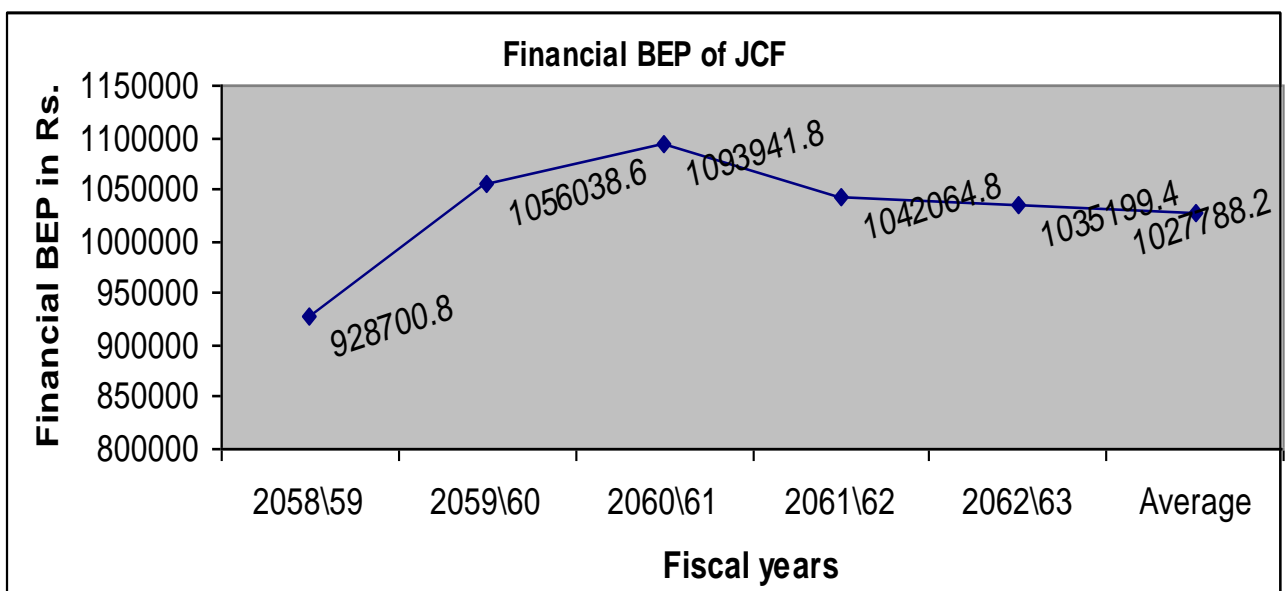


Figure no. 13

In above graph, we put the fiscal years in x-axis and financial BEP in Rs. in y-axis. We see that the financial BEP of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 928700.8, Rs. 1056039, Rs. 1093942, Rs. 1042065 and Rs. 1035199 respectively. It indicates that the JCF Ltd must sale higher than financial BEP to give the benefits to the shareholders.

**4.10. The comparative study of Operating, Cash and Financial BEP of JCF Ltd: -** we study by the following table.

Table no. 11

Table of Comparative study of Operating, Cash and Financial BEP

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Operating BEP in Rs.	872974	981725.3	1023234	990949	978637.6	966492.5
Cash BEP in Rs	842541.8	945798.8	987233.4	959079.5	942770.3	932612.5
Financial BEP in Rs.	928700.8	1056039	1093942	1042065	1035199	1027788

In above table, we see that in every year, the Financial BEP is greater than Cash BEP and Operating BEP, the Operating BEP is greater than Cash BEP and lower than Financial BEP and the Cash BEP is lower than Operating BEP and Financial BEP because of the fixed costs. In Cash BEP, we use operating fixed costs other than depreciation and interest. In Operating BEP, we use total operating fixed cost without interest. In Financial BEP, we use total fixed cost with interest. It is also presented by the following graph.

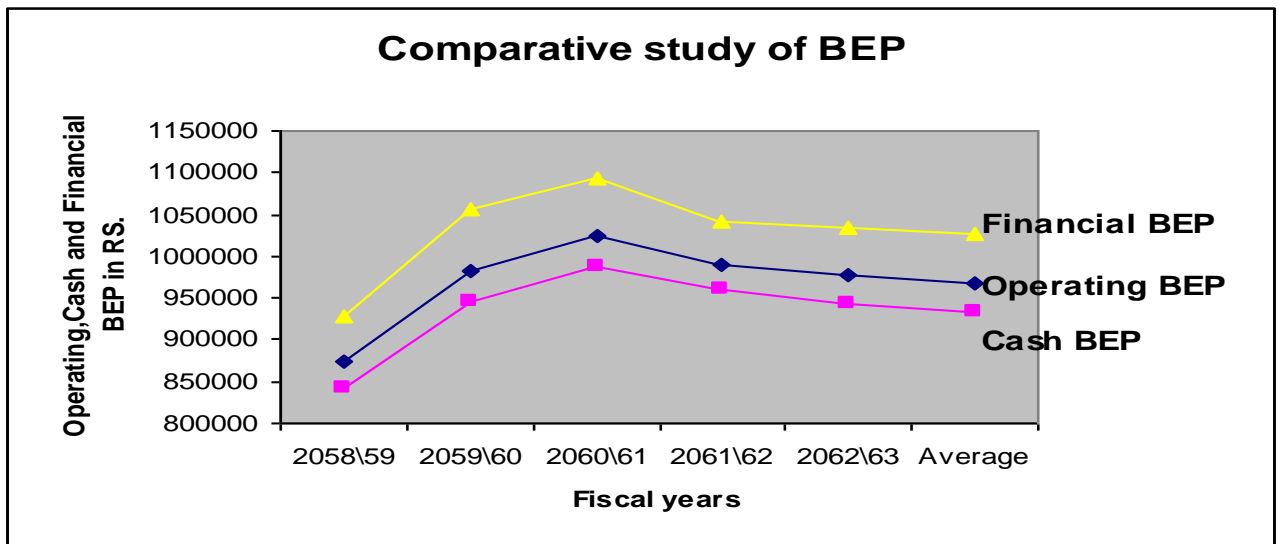


Figure no. 14

In above graph, we put the fiscal years in x-axis and financial, Operating and Cash BEP in Rs. in y-axis. It is clear that financial BEP is greater than Operating and cash BEP in each year because of the line of Financial BEP is above than Operating and Cash BEP line.

**4.11. Margin of Safety Analysis:** -The sales other than Break-even sales are known as Margin of safety. In other word, the difference between actual sales and break even sales is known as margin of safety and the ratio of margin of safety to actual sales is called margin of safety ratio. It is indicator of goodness for a business organization. We analyze it by following table.

Table no. 12

Table of Margin of Safety Analysis

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
Actual sales	1192067	1161014	1136140	1153879	1088470	1146314
BEP in Rs.	872974	981725.3	1023234	990949	978637.6	966492.5
Margin of safety is Rs.	319093	179288.7	112905.9	162930	109832.4	179821.5
Margin of safety ratio in %	26.76805	15.44242	9.937678	14.12019	10.09053	15.68694

In above table shows that Margin of Safety of JCF Ltd in fiscal years 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are Rs. 319093, Rs. 179288.7, Rs. 112905.9, Rs. 162930 and Rs. 109832.4 respectively. Average margin of safety is Rs. 179821.5. It indicates the strength and weakness of companies. It also shows the capacity of bearing loss or expenses above BEP sales. The margin of safety in year 2058/59 is high and in year 2062/63.

The margin of safety ratio in fiscal years 2058/59, 22059/60, 2060/61, 2061/62 and 2062/63 are 26.77 %, 15.44 %, 9.94 %, 14.12 % and 10.09 % respectively. It shows that percentage of margin of safety in actual sales. The margin of safety ratio in fiscal year 2058/59 is high and in fiscal year 2060/61 is low. It is also analyzed by following graph.

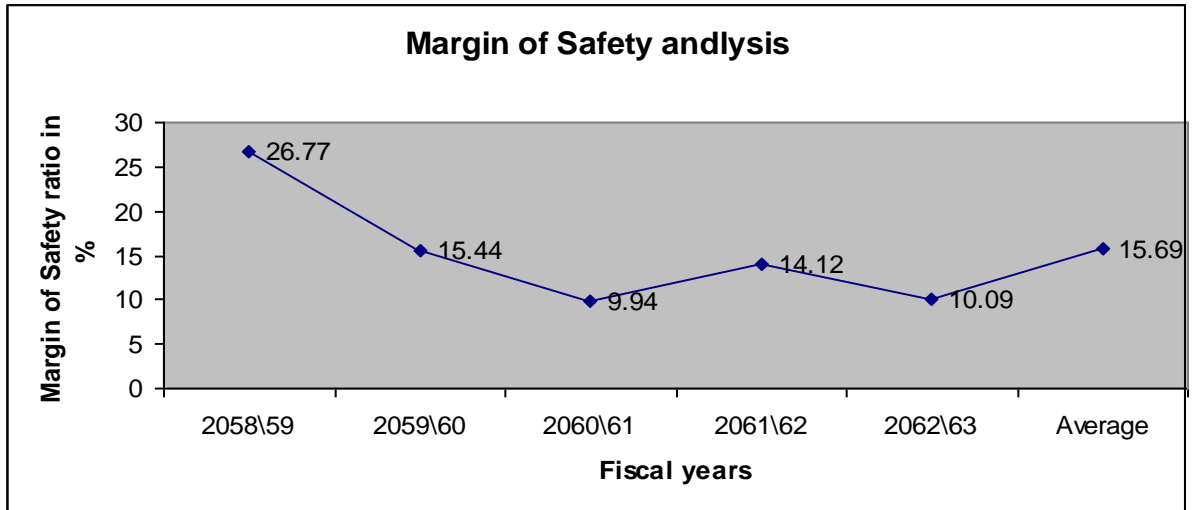


Figure no. 15

In above graph, we put the fiscal years in x-axis and margin of safety ratio in % in y-axis. In the fiscal year 2058/59, the margin of safety ratio is 26.77 % which is high among the sample years. After that decrease to 15.44 % in the year 2059/60 and decrease to 9.94 % in the year. Then increase up to 14.12 % in the year 2060/61 and again decrease to 10.09 %. It is clear that Margin of safety ratio is decreasing way.

**4.12. Operating Profit to Sales ratio:** - The ratio between Operating profit (EBIT) and sales revenue is known as Operating profit ratio. We have analyzed by the following table.

Table no. 13

## Table of Operating Profit Ratio Analysis

Particulars	2058/59	2059/60	2060/61	2061/62	2062/63	Average
Sales revenue	1192067	1161014	1136140	1153879	1088470	1146314
Less:- Total variable cost	927778	931212	917437	911007	867877	911062
contribution margin	264289	229802	218703	242872	220593	235252
Less:- Total operating fixed costs	193544	194315	196969	208578	198334	198348
Operating Profit(EBIT)	70745	35487	21734	34294	22259	36903.8
Operating Profit Ratio in %	5.93465	3.05655	1.91297	2.97206	.04498	3.21934

In above table shows that the Operating profit ratio of JCF Ltd in fiscal year 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are 5.93%, 3.06%, 1.91%, 2.97% and 2.04% respectively. In average, operating profit ratio of JCF Ltd is 3.22%. It gets high operating profit ratio in year 2058/59 and low in year 2060/61. Its trend will be analyzed by the following graph.

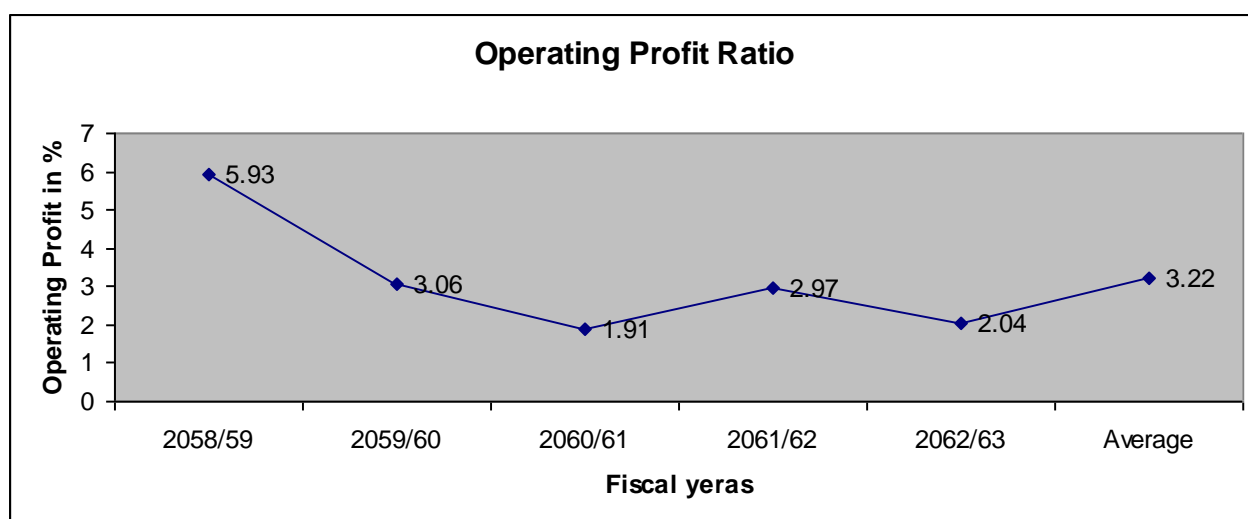


Figure no. 16



In above graph, we put the fiscal years in x-axis and operating profit ratio in y-axis. It is clear that the operating profit ratio of JCF Ltd in decreasing trend it mean that operating profit of JCF Ltd is decreasing way.

**4.13. Operating Leverage of JCF Ltd:** - Operating Leverage is the measure of the extent to which fixed cost are being used in organizations. The relationship of a company's variable cost and fixed costs are reflected in Operating Leverage. We have analyzed by the following table.

**Table no. 14**

**Table of Operating Leverage Analysis**

Particulars	2058\59	2059\60	2060\61	2061\62	2062\63	Average
contribution margin	264289	229802	218703	242872	220593	235252
Operating Profit(EBIT)	70745	35487	21734	34294	22259	36904
Operating Leverage	3.7358	6.4757	10.063	7.0821	9.9103	6.3747

In above table shows that the operating leverage of JCF Ltd in fiscal year 2058/59, 2059/60, 2060/61, 2061/62 and 2062/63 are 3.74 times, 6.48 times, 10.06 times, 7.08 times and 9.91 times respectively. In average, the operating leverage of JCF Ltd is 6.37 times.

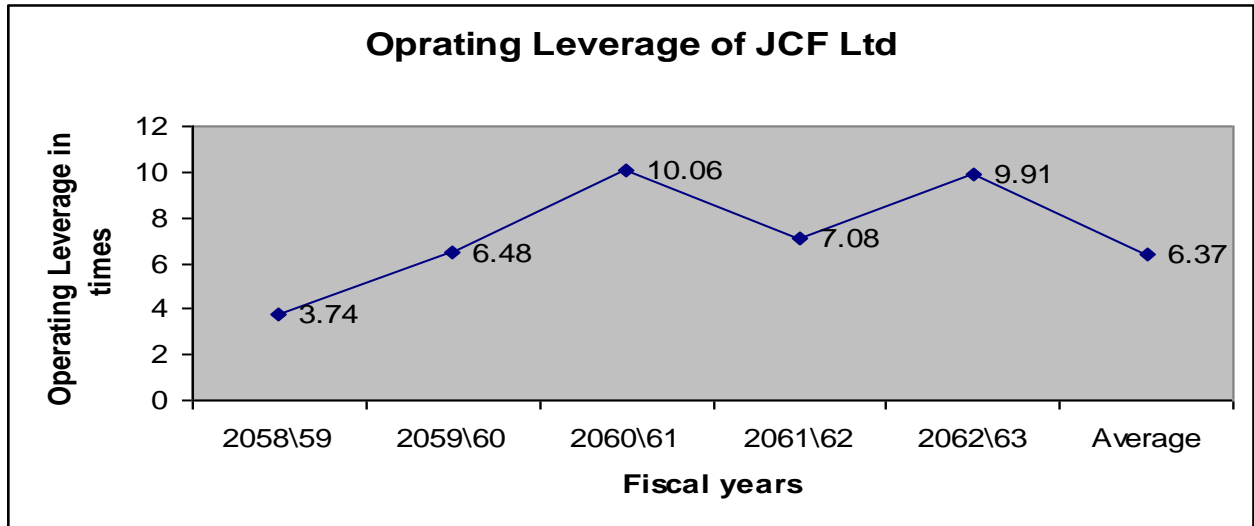


Figure no. 17

In above graph, we put fiscal years in x-axis and operating leverage in y-axis. It is clear that the operating leverage of JCF Ltd in increasing way. It means that the fixed costs is decreasing way due to fixed cost operating fixed cost increases and decreases. If fixed costs increases then operating leverage also increase and if fixed costs decreases then operating leverage also decreases. We can say that the fixed costs and operating leverage had direct relation.

**4.14. Major Findings:** - The available data analyzed by various tools and

we get following findings: -

- (i) Sales of JCF Ltd is decreasing way
- (ii) Semi-variable cost is classified in fixed and variable by variability method of segregation
- (iii) Total Cost of JCF Ltd is also decreasing way
- (iv) Variable cost is decreasing way
- (v) Fixed cost is increasing in starting and decreasing in at last
- (vi) Variable cost ratio of JCF Ltd is in fluctuating trend
- (vii) Contribution margin ratio of JCF Ltd in decreasing trend in beginning and decreasing trend in later
- (viii) Break-even point of JCF Ltd is in increasing trend
- (ix) Higher cash BEP in year 2060/61 and low in year 2058/59

- (x) Financial BEP is increasing way, so it is satisfactory
- (xi) Comparatively, Financial BEP is greater than Operating BEP and Operating BEP is greater than Cash BEP.
- (xii) Operating profit ratio of JCF Ltd is decreasing trend
- (xiii) Operating leverage of JCF Ltd is increasing trend

## 5. Summary, Conclusions and Suggestions

**5.1. SUMMARY:** – Every organization has established for earning profit. Profit and profitability do not just happen at random. It is to be managed by effective managerial skill and optimum utilization of scarce resources. So, companies most require effective profit planning for improve their profitability and financial position. In profit planning, there are various tools but, CVP analysis is a powerful tool in the hand of management for profit planning. It helps to study relationship between cost, volume and profit. It also helps in improving profitability. Without CVP analysis, we can not make effective profit planning.

The objectives behind this research study are examined the use of CVP analysis in profit planning of JCF Ltd. It is also examines the relationship between cost, volume and profit, margin of safety, BEP, leverage, operating profit of JCF Ltd. To fulfill objectives, I have used secondary data with descriptive analytical research design. I have analyzed various analytical tools to achieve objectives such as sales trend analysis, cost analysis, variable cost analysis, fixed cost analysis, v/c ratio analysis, cm ratio analysis, BEP analysis, Margin of safety analysis, Operating Profit analysis, Operating Leverage analysis etc.

From analysis of data by various tools, it shows that JCF Ltd has decreasing Sales Trend, decrease in total cost and variable cost, fluctuating v/c ratio trend, contribution margin ratio is decreasing trend, break-even point is increasing trend, Financial BEP is increasing trend, operating profit is decreasing trend and operating leverage is increasing trend. Due to decrease in sales, contribution margin ratio and operating profit, it depicts that profitability of JCF Ltd is not satisfactory. It means that there is lack of effective profit planning and not practicing CVP tools.

## 5.2 CONCLUSIONS: – After data presentation and analysis I

got various major finding related with objectives and I drawn some conclusions from finding of the study are as follows;

- Sales revenues of JCF Ltd is decreasing in 2059/60 by 2.68 %, in 2060/61 by 2.20 %, in 2062/63 by 6.01 % and increasing in 2061/62 by 1.56 % with comparison of last year sales. It shows that sales of JCF Ltd is not satisfactory and it is in decreasing trend due to political situation of country, lack of proper sales plan, competition market, government policy etc.
- The total cost of JCF Ltd is decreasing from Rs. 1140424 to Rs. 1084943. in the study period. Decrease in sales, variable cost also decrease that's why total cost is decreasing trend.
- Variable cost of JCF Ltd is decreasing from Rs. 927778 to Rs. 867877 in study period because it is directly vary with sales.
- Fixed cost of JCF Ltd is not remains constant due to lack of appropriate use in segregation of fixed cost. It is in increasing slightly from Rs. 205899 to Rs. 219337.
- Variable cost ratio of JCF Ltd is increasing from 77.83 % to 80.75 % in beginning and decreasing to 79.73 % in later. It depicts that it is not satisfactory that average 79.48 % of the sales are variable cost. It is also indicates that variable cost decrease but not according to sales revenues.
- Contribution margin ratio of JCF Ltd is decreasing from 22.17 % to 19.25 % in beginning, increase to 21.05 % in middle and decrease to 20.27 % in later. It shows the weakness of JCF Ltd. it is in decreasing trend due to increase in v/c ratio. There is indirect relationship between CM ratio and v/c ratio.
- Break-even point of JCF Ltd is in increasing from Rs. 8,72,973.96 to Rs. 10,23,234.06 in beginning and decreasing to Rs. 9,78,637.62 in later. It depicts that JCF most require increase in sales to get break-even point.

- Cash BEP of JCF Ltd is high in the fiscal year 2060/61 and low in 2058/59. It shows that JCF Ltd has higher capacity to cover cash expenses in 2061/62 and lower in 2058/59. It is also indicated that JCF most sales over to cover cash expenses of factory.
- Financial BEP of JCF Ltd is high in year 2061/62 and low in 2058/59. It depicts that the JCF Ltd most sales over than Financial BEP to give benefits to the shareholders.
- From comparative study, Operating BEP is greater than Cash BEP and Financial BEP is greater than Operating BEP of JCF Ltd. It indicates that to cover cash expenses JCF most sale more than Cash BEP, to earn normal profit JCF most sale more than Operating BEP and to give benefits to the shareholders.
- Margin of Safety ratio of JCF Ltd is decreasing from 26.77 % to 9.94 % in beginning, increase to 14.12 % in middle and later decrease to 10.09 % in the study period. It depicts that the weakness of JCF Ltd.
- Operating profit ratio of JCF Ltd is in decreasing trend. It is decreased from 5.93 % to 1.91 %. It shows that profitability of JCF is not satisfactory.
- Operating Leverage of JCF Ltd is increasing trend. It is increased from 3.74 times to 9.91 times due to decrease in operating profit. It will affect profit if sales decrease.

**5.3 SUGGESTIONS:** —Now world move around the globalization and Nepal also participates in globalization market with being member of WTO. So, Nepalese company has to prepare effective management policy, profit plan and adopt new scientific technologies. CVP analysis helps the organization to achieve organizational goal and improve profit planning. From above summary and conclusions, I would like to give some useful suggestions to JCF Ltd management for improving profitability

and using CVP analysis tools while making profit plan. The suggestions are as follows:-

- Sales of JCF Ltd is decreasing trend due to internal and external factors. So, JCF Ltd should consider that internal and external factor which affects the sales.
- JCF should use cost control technique to control cost for minimizing cost.
- JCF Ltd should use its plant and machinery's full capacity to minimize fixed cost and increase in profit.
- JCF Ltd should adopt appropriate segregation method of semi-variable cost.
- JCF Ltd should decrease variable cost by improving material purchase policy and wage payment policy.
- JCF Ltd should control its overstaffing in factory.
- JCF Ltd should sale Rs. 9, 66,492.45 in average to maintain BEP.
- JCF Ltd should sale Rs. 9, 32,612.49 in average to cover all cash expenses.
- JCF Ltd should sale Rs. 10, 27,788 in average to give the benefits to the shareholders.
- JCF Ltd should increase its margin of safety by increasing actual sales.
- JCF Ltd should increase its sales by using sales promotion technique.
- JCF should increase its profit by increase in sales or decrease in cost.
- JCF Ltd should increase its sales because operating leverage is in increasing trend.
- JCF Ltd should use CVP analysis tools for effective profit planning.
- JCF Ltd should adopt market research for increasing sales.