CHAPTER-I
INTRODUCTION

1.1 Background of the Study

Nepal is situated in the central part of the continent of Asia, on the southern slopes of the Great Himalayan. It is said to be a stone between two boulders. It is surrounded by China to north and India to east, west and south, is one of the least developed countries in the world which is directing her efforts in accelerating the pace of her economic development. The Himalayan range is the natural beauty between Nepal and China. Hence it is known as "Yam between two Stones.

Nepal is landlocked country surrounded by mountain and hills geographically. Nepal is divided into three regions on the basis of physical lecture, i.e. Himalayan region covers 15% area with 7.39% population, and Hilly region covers 68% area with 44.5% population and Tarai region covers 17% area with 44.39% population. Population of Himalayan and Hilly region is decreasing trend and tarai region population is increasing trend due to internal conflict and security lack of physical infrastructure, education, transport, market health as well as scarcity of agricultural land. 14.2% population stays a urban area and remain at remote area. Literacy rate above 6 year is 54.1% in Nepal. 79.91% population engaged in agriculture and 20.09% population engaged in industrial sector.

The growth of banking in Nepal is not so long in comparison with other developed or developing countries. Nepal had to wait for long time to come to the present banking system. The development of any country cannot be imagined without economic activities. The development of the banking system is one of the grounds for economic development so we should take a bank as strong means for economic development. The development of the bank is interwoven with the development of a person a society and a nation. It is impossible to fulfill the needs without bank whether it is inside the nation or in foreign country whether it is individual development or business and whether it is the people or the government. So to solve the problem relating to economic development of banking system is necessary.

Banks launched its operations with marketing concept i.e. customer is the king of the market they started knocking the doors of the customer. A customer is the most important visitor on our premises. He does not depend on us. We are dependent on our business. He is a part of it. We are doing him a favor by serving him. He is doing us a favor by giving us an opportunity to do so.

Cost volume profit (CVP) analysis examines behavior of total revenues, total costs, and operating income as charges occur in the output level, the selling price, the variable cost per unit, and the fixed costs of a product. Cost volume profit analysis is a systematic method of examining the relationship between changes in activity and changes in total sales revenue, expenses and net profit. As a model of these relationships CVP analysis simplifies the real-world conditions that a firm will face. Cost Volume profit analysis is a management accounting tool to show the function of the selling price of product, demand, variable costs, fixed costs, taxes, etc. The whole picture of profit planning is associated with cost volume profit is and costs in relation to sales at which the firm's revenues and total costs will be exactly equal or the net income will be zero.

While taking about the capital formation, commercial banks, play a major role in it, capital is one of the most important components for an organization. Actually, no of organization can exist without capital it is not possible to set up any type of business whether it is general store or a big business house. Every organization is started with a zero position and only come into existence when the promoters, owners or shareholders finance on it as capital. Every organization should have enough capital to run business. Hence commercial banks are one of the major financer for business house. After the restoration of multiparty democracy, several commercial banks made a way to business in Nepal. At present, commercial bank holds a large share of economic activities of the country. Commercial bank induced the savers to hold their saving in the form of bank deposits, bringing the scattered resources in to the organizes banking sector which can be allocated to the different economic activities.

1.1.1 Meaning of Bank

Bank is the financial or business institution, which was established by law. It deals with money. Bank takes deposits from general people. Joint stock company,

government, corporation etc. similarly the bank grant loan to the needy party for this service it takes interest and appropriate mortgage.

Banks are the principle sources of credit for millions of individual and families and for many units of government. They are among the most important financial institution in the economy. Moreover, for small local business ranging from grocery stores to automobile dealers, banks are often the major source of credit to stock the shelves with merchandise. Banks grant more installment loans to consumer than any other financial institution. Banks are among the most important sources of short-term working capital for business. They have become increasing active in recent year in making long-term business loans for new plant and equipment. Bank offers widest menu of services of any financial institution. In fact, a modern bank performances such a variety of function that it is difficult to give a precise and general definition of a bank. Such as accepting deposits, deposits, disbursing loan, remittance and other financial services. It is this reason that different economist give different definitions of the bank.

According to Horace, White "Bank is a manufacturer of credit and machines so facilitating exchanges.

According to Crothers "A bank is an institution which collects money from those who have it spare or who are saving it out of their income and lends this out to those who require it."

According to proof. Kenly "A bank is an establishment which makes to individuals such advance of money as may be required and safely made, and to which individuals entrust money when not required by them for use."

Banks have been opening branches in town and villages offering various types of services. In the past, only the bank used to just accept deposits from the public (savers) and give loan to the public (users). With the passage of time, their functions are being carried out by other financial institution as well.

1.1.2 Evolution of Banking Industry

The evolution of banking industry had started a long time back, during ancient times. There was reference to the activities of money chargers in the temple of Jerusalem in the New Testament. In ancient Greece the famous temples of Delphi and Olympia served as the great depositories for peoples' surplus funds and theses were the centers of money lending transaction. Indeed the traces of "rudimentary banking" were found in the Chaldean, Egyptian and Phoenician history. The development of banking in ancient Rome roughly followed the Greek Pattern. Banking suffered Oblivion after the fall of the Emperor Justinian in 565 AD, and it was not until the revival of trade and commerce in the middle ages that the lessons of finance were learnt a new form the beginning. Money lending in the middle Ages was however, largely confined to the Jews since the Christians were forbidden by the canon law to indulge in the sinful act of lending money to others on interest. However as the hold of the church loosened with the development of trade and commerce about the thirteen century Christians also took to the lucrative business of money lending, thereby entering into keen competition with the Jew who had hither to monopolize the business.

As a public enterprise, banking made its first beginning around the middle of the twelfth century in Italy and the Bank of Venice, founded in 1157 was the first the public banking institution. Following it were established the Bank of Barcelona and the Bank of Genoa in 1401 and 1407 respectively. The Bank of Venice and the Bank of Genoa continued to operate until the eighteenth century with the expansion of commercial activities in Northern Europe there sprang up a number of private banking house in Europe and slowly it spread throughout the world. In Nepal, modern banking starts from the establishment of Nepal Bank Limited in 1937 AS (1994 BS). Nepal Rastra Bank, the central bank of Nepal was established in 1956 AD (2013 BS). Similarly Rastriya Banija Bank was established in 1965 AD (2022BS) as the second commercial bank in Nepal. In 1959 AD (2016 BS) one industrial bank named "Nepal Industrial Development Bank" was established. In 1976 AD (2024 BS), Agricultural Development Bank (ADB) of Nepal was established. From 1984 AD (2041 BS) HMG of Nepal established five rural development banks, which are listed below.

1.1.3 Introduction of Commercial Bank

Commercial banks are the major component in the financial system. They work as the intermediary between depositors and lenders and facilitate in overall development of the economy, with major thrust in industrial development.

Commercial bank came into existence mainly the objectives of collecting the idle funds, mobilizing them into productive sector and causing and overall economic development. The bankers have the responsibility of safe guarding the interest of the depositors, the shareholders and the society they are serving. A sound banking system is important because of the key roles it plays in the economy, intermediation, maturity transformation, facilitating payment flows, credit allocation and maintaining financial discipline among borrowers. Banks are the gathers of saving the allocates of resources providers of liquidity and payment services.

1.1.4 Development of Commercial Bank in Nepal

The banking sector in Nepal started with the establishment of Nepal Bank Ltd. in 1937 AD (1994 BS). The bank was started with the paid up capital of rupees eight lakh forty two thousand and authorized capital of rupees one core. The balance sheet figure of first year of Nepal Bank Ltd. was Rs.2, 815,000. It started its business by accepting Rs.1, 702,000 in the initial year. Later, in 2013 Nepal Rastra Bank was established which helped in making banking sector more systematic and dynamic. Since 2013, it has been functioning as the government's bank and has contributed to the growth of financial sector. As time passed, another bank, Rastriya Banijya Bank was established in 2022 BS in order to play a major role in banking services sector. After the establishment of this bank, there was progress in banking sector of the country. Despite being an agricultural country our farming has been traditional that consumes more cost and gives fewer yields. To solve this problem, scientific agricultural system needed introduction, which required finance. To meet these necessities, Agricultural Bank was established in 2024 BS.

Himalayan Bank was established in 1993 in joint venture with Habib Bank sector, Himalayan Bank has been able to maintain a lead in the primary banking activities-loans and Deposits.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer services. Products such as premium saving Account, HBL proprietary card and millionaire Deposit scheme besides service such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following our lead by introducing similar products and services. Therefore, we stand for the innovations that we bring about in this country to help our customers besides modernizing the banking sector, with the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure of other local banks under our credit standing with foreign correspondent banks we believe we obviously load the banking sector of Nepal. The most recent rating of HBL by Banker's almanac as country's number 1 Bank easily confirms our claim.

All Branches of HBL are integrated into Globus (developed by temenos) the single banking software where the bank has made substantial investment. This has helped the Bank provide services like 'Any Branch Banking Facility', Internet Banking and SMS Banking. Living up to the expectations and aspirations of the customers and other stakeholders of being innovative, HBL very recently introduced several new products and services. Millionaire Deposit scheme small Business pre-paid visa card, International Travel Quota credit card consumer Finance through credit card and online TOEFL, SAT, IELTS, etc. free payment facility are some of the product and services. HBL also has a dedicated offsite 'Disaster Recovery Management System'. Looking of the number of Nepalese workers abroad and their need for formal money transfer channel: HBL has developed exclusive proprietary online money transfer software. Himal Remit TM.

Table: 1.1

Commercial Banks in Nepal

S.N	Name of Banks	Date of Operation	Central Office
1	Nepal Bank Limited	1994-07-30	Dharmapath, Ktm
2	Ristriya Banijya Bank	2022-10-10	Singha Darbar,Ktm
3	Agriculture Development Bank	2024-11-17	Ramshahpath,Ktm
4	Nepal Arab Bank Limited	2041-03-29	Kantipanh,Ktm
5	Nepal Investment Bank Limited	2042-11-26	Darbarmarg,Ktm
6	Standard Chartered Bank Nepal Limited	2043-10-16	Newbaneshor,Ktm
7	Himalayan Bank Limited	2049-10-05	Themal,Ktm
8	Nepal Bangladesh Bank Limited	2050-02-23	Newbaneshor,Ktm
9	Nepal SBI Bank Limited	2050-03-23	Hattisar,Ktm
10	Everest Bank Limited	2051-07-01	Lajimpat,Ktm
11	Bank Of Kathmandu Limited	2051/11/28	Kamaladi,Ktm
12	Nepal Credit & Commerce Bank Limited	2053-06-28	Siddharthanagar, Rupandehi
13	Lumbini Bank Limited	2055-04-01	Narayangadh, Chitawan
14	NIC Bank Limited	2055-04-05	Biratnagar,Morang
15	MachhapuchchhreBank Limited	2057-06-07	Prithivichowk, Pokhard
16	Kumari Bank Limited	2057-12-21	Putakisadak,Ktm
17	Laxmi Bank Limited	2058-12-21	Adarsanagar,Birjung
18	Siddhartha Bank Limited	2059-09-09	Kamaladi,Ktm
19	Global Bank Limited	2063-09-18	Parsa,Birjung
20	Citizens Bank International Limited	2064-01-07	Kamaladi,Ktm
21	Prime Commercial Bank Limited	2064-06-07	New Road,Ktm
22	Bank of Nepal Limited	2064-06-25	Tripureshowar,Ktm
23	Sunrise Bank Limited	2064-06-25	Gairidhara,Ktm
24	Nepal Merchant Bank Limited	2o53-08-11	Babarmahal,Ktm
25	Development Credit Bank Limited.	2057-09-07	Newbaneshor,Ktm
26	Kist Bank Limited	2066-01-24	Kamaladi,Ktm
27	Janta Bank Nepal Limited	2066-12-23	Anamnagar,Ktm
28	Mega Bank Limited	2067-04-07	Kantipath, Kathmandu
29	Commerce & Trust BankLimited	2067-06-04	Kamaladi, Kathmandu
30	Civil Bank Limited	2067-08-10	Kamaladi, Kathmandu
31	Century Commercial Bank	2067-09-07	Putalisadak, Kathmandu
32	Sanima Bank	2068	Kathmandu

Source: Nepal Rastra Bank

1.1.5   Introduction of Himalayan Bank

Himalayan Bank was established in 2049 B.S. by a few distinguished business personalities of Nepal in partnership with Employees provident fund and Habib Bank Limited, one of the largest commercial bank of Pakistan. It is the first bank of Nepal whose maximum shares are hold by the Nepalese private sector. Besides commercial banking services, the bank also offers industrial and merchant banking services. Bank was established with authorized capital Rs. 120 million, issued capital Rs.60 million and paid up capital Rs.30 million. In which, Nepali founder invested 51% share. Habib Bank of Pakistan invested 20% share. Employee provident fund invested 14% shares and remaining 15 % shares issued for public. With its head and corporate office at Thamel, Kathmandu, the bank has 33 branches. Thirteen of its branches are located inside the Kathmandu Valley while the rest are spread across the nation. Besides, a branch looking exclusively at electronic cards and related products, is based in Patan, Lalitpur.

HBL has always been committed to providing a quality service to its valued customers' will a personal touch. All customers are treated with at most courtesy as valued clients. The Bank, wherever possible, offers tailor made facilities to its clients, based on the unique needs and requirements of different clients. To further extend the reliable and efficient services to its valued customers, HBL has adopted the latest banking technology. This has not only helped the bank to constantly improve its service level but has also prepared the bank for future adaptation to new technology. The Bank already to customers and will be introducing more services like these in the near future.

Mission of the HBL is to become the preferred provider of financial service in the country. Vision of the bank is to become a leasing bank of the country by providing premium product and service and then ensuring attractive and substantial return for the stakeholders. An objective of the bank is to become the bank of first choice.

1.1.6   Performance of Bank

Himalayan Bank was established in 1993 in joint venture with Habib Bank sector, Himalayan Bank has been able to maintain a lead in the primary banking activities-loans and Deposits.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer services. Products such as premium saving Account, HBL proprietary card and millionaire Deposit scheme besides service such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following our lead by introducing similar products and services. Therefore, we stand for the innovations that we bring about in this country to help our customers besides modernizing the banking sector, with the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure of other local banks under our credit standing with foreign correspondent banks we believe we obviously load the banking sector of Nepal. The most recent rating of HBL by Banker's almanac as country's number 1 Bank easily confirms our claim.

All Branches of HBL are integrated into Globus (developed by temenos) the single banking software where the bank has made substantial investment. This has helped the Bank provide services like 'Any Branch Banking Facility', Internet Banking and SMS Banking. Living up to the expectations and aspirations of the customers and other stakeholders of being innovative, HBL very recently introduced several new products and services. Millionaire Deposit scheme small Business pre-paid visa card, International Travel Quota credit card consumer Finance through credit card and online TOEFL, SAT, IELTS, etc. free payment facility are some of the product and services. HBL also has a dedicated offsite 'Disaster Recovery Management System'. Looking of the number of Nepalese workers abroad and their need for formal money transfer channel: HBL has developed exclusive proprietary online money transfer software. Himal Remit TM.

1.2   Statement of Problem

Cost- volume profit analysis is a vital technique that provides supplementary information for profit planning. Industry and agriculture need of the country are crucial importance for Nepal. It can be visualized that the banking development in Nepal is got in its impact stage. So we have to go still a long way to developing and applying the break even analysis, we have assumed that all cost can be classified into

fixed and variable, components. If one fails to identify the cost as fixed and variable, the application of cost volume profit analysis becomes almost impossible. The present study will try to analyze and examine the profitable, break even profit liquidity and debt management in this bank. Without prepare cost volume analysis of any business cannot run in right way. They cannot achieve their objectives. In this study, following issues are to be deal for the purpose of this study.

1. How are the profit planning is associated with cost volume profit interrelation?
2. Whether the size, profitability liquidity of HBL is adequate or not?
3. The bank has developed and applied short term and long term objectives?
4. Do HBL have specific goals to develop to nation?

1.3   Objective of study

The basic objectives of present study are to highlight the cost volume profit analysis its effectiveness in Nepal commercial banks especially in HBL. The present research will try to fulfill the following objectives.

1. To evaluate cost-volume profit analysis of HBL and analyze each assets structure and its implications.
2. To analyze cost-volume-profit trend position of HBL.
3. To analyze the accounting position of HBL.
4. To shed light on creation and mobilization of fund in HBL.
5. To find out suggestions and recommendations on the basis of its applied system and accounting position.

1.4   Significance of the Study

Cost-volume-profit analysis is regarded as the life analysis is regarded as the life blood for any enterprise because it is needed for sustaining the enterprise in day operation. If the business cannot maintain cost-volume profit analysis, it is likely to become insolvent and may even push into bankruptcy. Goal of cost-volume-profit analysis manage the cost and profit of business. Survey indicates that the largest portion of most accounting manager time is devoted to the day to internal operations of the day to which fall under the heading of cost-volume-profit analysis. Very few studies have been performed on the accounting performance of HBL. Different researchers have written their dissertations on cost-volume-profit analysis, however

almost all of them are related to accounting sectors and does not address the real situation of service sector public enterprises like HBL. It is thus clear that no. full-fledged academic research study on cost-volume-profit analysis of HBL has been carried out. The present study, therefore, bridges this long felt gap in the field or research. This is only a beginning and it could be further developed continued research in this field.

1.5   Limitations of the Study

Although there are several commercial banks in Nepal but the study has been confined to Himalayan Bank Limited. Only the main limitation of the study is as follows.

1. The study concerns the analysis of only 5 years data.
2. The study is only concentrated in cost volume profit analysis and its accounting performance of the HBL.
3. The study is based on secondary data. Therefore, the accuracy of the result depends on the accuracy of the data provided by the HBL.
4. The Study follows limited tools in such as correlation of coefficient, break-even point and profit planning.
5. This case study is cost-volume-profit analysis of Himalayan Bank Limited.

1.6   Organization of the study

The whole study is divided into five main chapters.

The first chapter presents of introduction, statement of the problems, and objective of the study, scope of the study and limitation of the study.

The second chapter presents of review of literature. Review of related material like previous thesis, browser booklets, journals, articles and report, magazines etc will be done.

The third chapter presents of research design, nature and source of data, method of data collection and method of analysis under research methodology.

The fourth chapter presents the collected data will be tabulated and analyzed by using various financial tools, mathematical and statistical tools under presentation and analysis.

The fifth chapter presents of the brief summary of whole research report and conclusions. It's also provides some useful suggestion and recommendations to concerned parties. At last Bibliography and Appendix are also included.

CHAPTER-II
REVIEW OF LITERATURE

This chapter is basically concerned with review of literature relevant to the topic CVP Analysis. The purpose of reviewing of literature is to develop some expertise in one's area, to see what new contribution has made and to receive some ideas for developing a research design. Thus, previous studies cannot be ignored as they provide the foundation of the present study. This chapter highlights the literature that is available in concerned subject as to my knowledge, research work, and relevant study on this topic, review of journals and articles and review of thesis work performed previously.

2.1   Conceptual Framework

2.1.1   Meaning of Profit Planning and Control

Profit planning and control is an important approach mainly in profit oriented enterprises. Profit planning is mainly a tool of management. It is not an end of management or substitutes. It facilitates the managers to accomplish managerial goals in a systematic way. Profit planning and control can be considered as key to success. Today's market is very competitive no one can survive without having good planning, controlling, organizing and directing managerial tool to lead the company successfully. Profit planning is an extensive course of accountancy. It can be defined as process of management that enhances the efficiency of management. It is broadly defined as a systematic and formulized approach for performing significant phases of the management, Planning and controlling functions. Profit planning is merely a tool of management which facilitates the managers to accomplish managerial goals in a systematic way. Profit planning and controlling includes following facts.

- The development and application of broad and long range objectives of the enterprises
- The development of strategies long range profit plan in broad terms.
- The specification of tactical short range profit plan detailed by assigned responsibility.
- The establishment of the built in for system follow-up process.
- Control by review periodic performance report.

Profit

Profit is the ultimate goal of every business house. It cannot be achieved easily. It should be managed well with better managerial skills. Profit generally means the difference of revenue and costs. However, the term has a precise meaning, "Profit may be defined as the net income of a business after all the other costs-rent, wages ad interests have been deducted from the total income" (Dewett and Varma, 1998: 335). Profit is uncertain that vary from person to person, firm to firm and subject to subject. In accounting sense the term net profit (before tax) is the difference between sales revenue and the incurred for it such as, rent, wages, raw materials, etc.

In economic sense, profits are regarded as a reward for risk taking or risk bearing. All business are more or less speculative and unless the risk taker is going to be amply rewarded, business will to be started as risk acts as a great deterrent and those who do take the risk earn much more than the normal return on capital (Dewett and Varma, 1998: 338).

In entrepreneur's sense, pure profit is an amount which accrues to the entrepreneur for assuming the risk inseparable from business. It is a reward for assuming the final responsibility that cannot be shifted to anybody else (Dewett and Varma, 1998: 335).

Planning

Planning in organizations and public policy's both the organizational process of creating and maintaining a plan and the psychological process of thinking about the activities required to create a desired future on some scale. As such, it is a fundamental property of intelligent behavior. This thought process is essential to the creation and refinement of a plan or integration of it with other plans, that is, it combines forecasting of developments with the preparation of scenarios of how to react to them. The term is also used to describe the formal procedures used in such an endeavor, such as the creation of documents diagrams, or meetings to discuss the important issues to be addressed, the objectives to be met, and the strategy to be followed. Beyond this, planning has a different meaning depending on the political or economic context in which it is used.

What should a plan be?

A plan should be a realistic view of the expectations. Depending upon the activities, a plan can be long range, intermediate range or short range. It is the framework within which it must pirate. For management seeking external support, the plan is the most important document and key to growth. Preparation of a comprehensive plan will not guarantee success, but lack of a sound plan will almost certainly ensure failure.

Essentials of Planning

Planning is not done off hand. It is prepared after careful and extensive research. For a comprehensive business plan, management has to

- Clearly define the target / goal in writing.
- It should be set by a person having authority.
- The goal should be realistic.
- It should be specific.
- Acceptability
- Easily measurable
- Identify all the main issues which need to be addressed.
- Review past performance.
- Decide budgetary requirement.
- . Focus on matters of strategic importance.
- What are requirements and how will they be met?
- What will be the likely length of the plan and its structure?
- Identify shortcomings in the concept and gaps.
- Strategies for implementation.
- Review periodically.

Control

Control is one of the managerial functions like planning, organizing, staffing and directing. It is an important function because it helps to check the errors and to take the corrective action so that deviation from standards are minimized and stated goals of the organization are achieved in desired manner.

According to modern concepts, control is a foreseeing action whereas earlier concept of control was used only when errors were detected. Control in management means setting standards, measuring actual performance and taking corrective action. Thus, control comprises these three main activities. Control of an undertaking consists of seeing that everything is being carried out in accordance with the plan which has been adopted, the orders which have been given, and the principles which have been laid down. Its object is to point out mistakes in order that they may be rectified and prevented from recurring.

In 1916, Henry Fayol formulated one of the first definitions of control as it pertains to management: Control consists of verifying whether everything occurs in conformity with the plan adopted, the instructions issued, and principles established. Its main object is to point out weaknesses and errors in order to rectify plan and prevent recurrence. Also control can be defined as "that function of the system that adjusts operations as needed to achieve the plan or to maintain variations from system objectives within allowable limits".

2.1.2   Concept of CVP Analysis

Every business organization set up with certain objective of providing services to people and earns profit as income whether that is productive or non-productive. But it is not a joke to fulfill that objective easily in this competitive world of business. As globalization take place it became tougher to sustain in market. So, they not only just try and see the result also do hard work and provide many facilities to secure from loss. Hence they need to think about future course of action in such a way so that they can accomplish their business objectives. In order to make profit it is necessary to check business capacity, activities, utilization of resources and if there is any part to reduce cast because little reduction in expenses can make profit in income.

Hence, profit planning tools helps to assist in analyzing the situation. Therefore, CVP Analysis is one of the tool uses in organization for analyzing profit. CVP analysis is the most important that provides the management decision about effective budgeting of a company. In management accounting, Cost-Volume-Profit Analysis (CVP) has been considered as basic tools which can

be used by a good managers as a magical rod to improve management efficiency and profit of a company.

Cost-volume-profit (CVP) analysis expands the use of information provided by breakeven analysis. A critical part of CVP analysis is the point where total revenues equal total costs (both fixed and variable costs). At this breakeven point (BEP), a company will experience no income or loss. Usually the CVP analysis provides the answer to the following questions.

- What minimum level of sales need to achieve to avoid losses?
- What should be the sales level to earn a targeted profit?
- What will be the effect of change in FC, VC or Price-in the income of a company?
- What will be the new BEP under changes in cost, price, volume and sales mix?
- How will be profit be affected when sales mix is changed?
- What will be the impact of plant expansion on CVP relationship?
- What will be the effect on operating profit with the change in FC?

CVP Analysis examine the behavior of the total revenues, total cost and operating income as changes occur in output level, the selling price the variable cost per unit and fixed cost of product (Horngren, Sundem and William, 2004).

CVP analysis is a systematic method of examining the relationship between changes in activity and changes in total sales revenue, expenses and net profit. As a model of these relationships CVP analysis simplifies the real world condition that a firm will face. Like models which are abstractions from reality, CVP analysis is subject to a number of underlying assumption and limitations.

In other words, CVP analysis applies the variable costing approach to analyze the built-in relationship between cost, volume and profit. It analyses the short term static relationship between cost, volume and profit. It assumes that under constant underlying condition, CVP analyses can be used for the analysis of break even volume- break even analysis and contribution margin analysis- profit planning.

Cost volume profit analysis study of the interrelationship between the following factors.

- Price of product
- Volume or level of activity
- Per unit variable cost
- Total fixed cost
- Mix of products.

2.1.3 Assumptions of CVP Analysis

CVP assumes the following:

- Constant sales price;
- Constant variable cost per unit;
- Constant total fixed cost.
- Constant sales mix
- Units sold equal units produced.

These are simplifying largely linear assumptions, which are often implicitly assumed in elementary discussions of costs and profits. In more advanced treatments and practice, costs and revenue are nonlinear and the analysis is more complicated but the intuition afforded by linear CVP remains basic and useful. One of the main methods of calculating CVP is profit volume ratio which is (contribution/sales) $\times$ 100 = this gives us profit volume ratio. (www.wikipedia.org/wiki/CVP).

Cost, Volume and Profit analysis includes the related concepts of

- Contribution analysis and
- Break even analysis.

These concepts entered the mainstream of management accounting starting in the 1930's the rest upon the concept of cost variability. Contribution analysis involves a series of analytical techniques to determine and evaluate the effects on profits of changes in sales volume, sales prices, fixed expenses and variable expenses. Basically, it applies the concept of a contribution margin income statement: Revenues minus variable expenses gives the contribution margin, and contribution margin minus fixed expenses equals profit. Break-even analysis

focuses on the breakeven point: Fixed expenses divided by the contribution margin equals break even sales volume (the point at which profit is zero because revenue equals total cost). The result of breakeven analysis is usually graphed to show the relationships between revenue (i.e. sales), fixed expenses, and variable expenses, within a relevant range of sales volume.

CVP analysis is concerned with examining the relationship between changes in volume and changes in total revenue and costs in the short term. The study of the interrelationship of sales costs and net income is usually called cost volume profit analysis. The analysis will be expanded to cover firms with several products by multiple divisions. CVP analysis consists essentially in examining the relationship between changes in volume and changes in profit. The scope of CVP analysis ranges from the determination of the optimal output level of a single product department to the determination of the optimal mix of large multi product firm. C-V-P analysis is concerned with examining the relationship between changes in volume and changes in total revenue and costs in the short term. Drury has compared the economist's and accountant's models of CVP behavior. The major differences are that the total cost and total revenue functions are curvilinear in the economist' model, whereas the accountant's model assumes linear relationships. However, it can be noted that the accountant's model was intended to predict CVP behavior only within the relevant range, where a firm is likely to be operating on constant returns to sale. A comparison of the two models suggested that, within the relevant production range, the total costs and revenue functions are fairly similar.

CVP Analysis examines the behavior of the total revenues, total cost and operating income as changes occur in output level, the selling price, the variable cost per unit and/or fixed cost of product. They mean to say that CVP is related to totality of revenues, cost and operating income in the output level.

2.1.4 Problems of CVP Analysis

There are three problems encountered while applying CVP analysis. They are as follows.

1. **The Activity Based**

Product units are preferable if the analysis is applied to one product. For multiple products the activity base must be in additive units using a common denominator of volume or output. The net sales amounts are usually the only satisfactory common denominator.

2. **Inventory Changes**

If the budgeted changes in inventories are immaterial, they may be disregarded in CVPA. In case the changes are significant, they must be included in the analysis. Hence the two approaches often used are

- disregarded the inventory change
- include the inventory change

3. **Non-operating Incomes and Expenses**

Non-operating or extra ordinary expenses and incomes, if amounts are significance can cause another problem in CVPA. The basic issue is whether to include or exclude from the analysis.

However, if they are included, it is preferable to include the net of other income and other expense. If the excess is expenses, it would be added to fixed expenses whereas if the excess is income it should be deducted from the fixed expenses.

2.1.5 Limitation of CVP Analysis

CVP is a short run, marginal analysis: it assumes that unit variable costs and unit revenues are constant, which is appropriate for small deviations from current production and sales, and assumes a neat division between fixed costs and variable costs, though in the long run all costs are variable. For longer-term analysis that considers the entire life-cycle of a product, one therefore often prefers activity based costing of throughout accounting.

CVP Analysis is helpful in profit planning and firm will be able to produce any number of outputs of its choice or desire but in reality it is not possible to do so because of some critical factors or as constraints of CVPA which are as follows:

- CVPA with a single constraint.
- CVPA with multiple constraints.

The general price level will remain essentially stable in the short run. Sales and production level are synchronized that is inventory remains essentially unchanged in the short run. Efficiency and production per person will remain essentially unchanged in the short run.

If any of the above assumptions were changed, revised budget would be needed for a new analysis.

2.1.6   Terms use in CVP Analysis

1. **Fixed Cost**

Fixed cost remains constant in total amount even if the level of output changes within the level of capacity. Depreciation, rent, interests etc. are fixed costs. Fixed cost change only when the capacity will be changed. So, it is also called capacity cost. Per unit fixed cost changes but total fixed cost remains constant. It is also considered as supplementary cost. It is that cost which do not vary with the volume of production whatever the quantity of goods produced huge or small charges on amount should be paid regularly even if orders cease to flow in and the factory is closed these costs will continue. Such costs remain constant whether the activity increase or decrease within a relevant range. It only exchange over a period of time. These costs can be classified into two types. First expenses like depreciation, taxes, insurance and second expenses like advertising, training etc.

2. **Variable Cost**

Variable cost is also considered as rime cost that means direct cost. They include cost of raw materials used in making a commodity, wages of labor, wear and tear etc. these cost values with the quantity produced. If production is stopped the prime cost disappears. It is the cost which changes in direct proportion to and in same direction as the changes activity levels or output. When the output double the variable cost will be also double but the cost per unit remains same in each activity.

3. **Semi Variable Cost**

The costs which have characteristics of fixed cost and variable cost is called semi variable cost. It is a cost which changes as output or activity but not in proportion to change in the activity base. For example lighting indirect material, indirect labor, repair and maintenance etc.

4. **Step-Fixed Cost**

Step fixed cost are those which remain constant over a wide range of activity but jump to a different amount for activity level outside the range. All fixed cost is step fixed cost because none of them remain same for an infinite level of output.

5. **Margin of Safety**

Margin of safety protect business firm against the future business happenings. The larger is the MOS the greater the chance for the firm to earn profit or vice versa. MOS is also defined as excess of actual or budgeted sales over and above the BEP sales. In other words, it is the difference between actual or budgeted sales sand BEP.

> Symbolically,
>
> > MOS = Actual Sales Volume – BE Sales Volume
> >
> > MOS Ratio = Margin of Safety / Actual Sales
> >
> > MOS (%) = {(Actual Sales- BE Sales) × 100} / Actual Sales

6. **Contribution Margin**

CM is regarded as the excess of sales price of a unit of output over its VC. It enables to meet the FC and add to the profit.

2.1.7 Definition of BEP

BE analysis is widely used technique for the study of CVP relationship. It is the plot used under BE analysis. BEP is the volume of activity where the origin's revenue and express are equal. At this point the amount of sale and the organizations has no profit or loss. It is the point at which neither profit nor loss is made. So some people state that up to the point of activity where total revenue equal to total expenses is called BEP analysis. It concerned with the study of revenue &

cost in relation to sales volume and determines that volume f sales at which the firm's revenue and total cost will be exactly equal. BEA is a method of determining the point at which the firm will break even but it also shows the management tune of the firm's profit or loss if sales exceed or fall below that point BEA is important. In the planning process because the CVP relationship can be greatly influence by the proportion of the firm's investment in assets which are fixed and changes in the ratio of fixed to variable assets are determined when plans are set.

- At BEP the sales volume at which total sales revenue equals the total cost.
- At BEP the profit will be zero so, it is called no profit no loss point.

2.1.8 Assumptions of BEP

BEP analysis and contribution of analysis is based on a specific set of assumption that should be clearly understood. These underlying assumptions are as follows.

- All cost is classified into two parts, FC & VC. There is no cost other than Fixed and Variable.
- There is a relevant range of validity for using the results of the analysis and sales price does not change as units of sales change.
- There is only one product or incase of multiple products, the sales mix among the products remain constant.
- Basic management policy about operation will not change materially in short run.

2.1.9 Limitations of BEP

BE Analysis in many business situations can be used for effective decision making but there are many short coming limitations in its analysis and interpretation. Some of these can be listed as:

- The assumption of producer's market phenomenon may not hold good for all types of commodities.
- The FC may not remain constant as well as the VC may not vary in fixed proportions at different levels of output.
- With variation in the prices of the items or services, which also depend on the factors affecting its demand and supply, will certainty affect the demand at commodity? The phenomenon is not covered in BE analysis.

- Identification of fixed & VC involved in production process is very complicated. A shift in prefix may change the BEP.
- Consumers may be given certain discount on purchases to promote sales. This revenue may not be perfectly variable with level of sales output.

2.1.10 Applications of BEP

BE concept can be used to formulate different policies in a business enterprise. Some of these applications are

- Determination of profit at difference levels of sales and margin of safety.
- To find the level of output to get the desired profit.
- Effects of price reduction on sales volume and changes in sales mix.
- Effects of FC & VC changes in sales volume.
- Selection of most profitable alternative and make or buy decision & drop or add decision.

BEP Analysis can be applied to determine the required sales volumes to generate a budgeted profit amount. It can be calculated as follows.

$$\text{Req. Sales (U)} = \frac{Fixed\ Expenses + Desired\ Operating\ Net\ Profit}{Contribution\ Margin}$$

Required sales to earne after tax profit:

$$\text{(Rs.)} = \frac{Fixed\ Cost + Desired\ Income\ After\ Tax/(1-T)}{PV\ Ratio}$$

$$\text{(Unit)} = \frac{Fixed\ Cost + Desired\ Income\ After\ Tax/(1-T)}{CMPU}$$

Operating Profit = (Actual Sales – BE Sales) × PV Ratio

As increase in sales volume = (BE. Sales – BE Sales) × PV Ratio

If SP or Sales volume reduce to maintain present profit level or sales volume to offset reduce

$$\text{Or} = \frac{\frac{(FC+DP)}{Revised\ CMR}}{PV\ Ratio}$$

$$\text{Required Sales Volume to Increase SP} = \frac{FC+DP}{New\ PV\ Ratio}$$

Where,

BE = Break Even

PV = Profit Volume

FC = Fixed cost

SP = Selling Price

CM = Contribution Margin

DAPT = Desired Profit After Tax

Effect of changes in FC: FC may be increased as rent increase. It also may be due to increase capacity for meeting increasing demand for the product. The effect of the increase FC will be to raise the BEP of the firm

(i) Relative BEP $= \dfrac{Present\ FC + Additional\ FC}{PV\ Ratio}$

(ii) Required Sales Volume to Earn the Present Profit=

$$= \dfrac{Present\ FC + Additional\ FC + Present\ Profit}{PV\ Ratio}$$

(iii) Required Sales Volume to Earn the Present Rate of Profit on Investment

$=$

$$\dfrac{Present\ FC + Additional\ Fc + Present\ Return\ on\ Investment + Return\ on\ New\ Additional\ Investment}{PV\ Ratio}$$

❖ Effects of Change in VC

(i) BEP Revised $= \dfrac{FC}{PV\ Ratio\ (NEW)}$

(ii) Desired Sales Volume to Maintain Exisisting Profit

$$= \dfrac{FC\ Exisisting\ Profit}{PV\ Ratio\ (New\ One)}$$

Where,

BE = Break Even

SP = Salling Price

PV = Profit Volume

FC = Fixed Cost

SP = Selling Price

DAPT = Desired Profit After Tax

CM = Contribution Margi

2.1.11 Methods of Computation BEP

1. **Algebraic Method**

BEP can be found by the use of formula which is termed as algebraic method. It also can be mention as formula method. According to definition of BEP, it is such a level of sale of activity, where there is neither profit nor loss. It is the level where total cost is equal to total revenue. It can be presented equation form as follow:

$$\text{Sales Revenue} = \text{Total Cost}$$
$$\text{Or, SR} = \text{FC} + \text{VC}$$
$$\text{For SR} = \text{SPPU} \times \text{Sales Units}$$
$$\text{SR} = \text{SPPU} \times \text{Q}$$
$$\text{For Total Cost} = \text{FC} + (\text{VCPU} \times \text{Q})$$

We have,

$$\text{SR} = \text{TC}$$
$$\text{SPPU} \times \text{Q} = \text{FC} + (\text{VCPU} \times \text{Q})$$
$$\text{Or, } (\text{SPPU} \times \text{Q}) - (\text{VCPU} \times \text{Q}) = \text{FC}$$
$$\text{Or, Q} (\text{SPPU} - \text{VCPU}) = \text{FC}$$
$$\text{Or, Q} = \text{FC}/ (\text{SPPU} - \text{VCPU})$$

Where,

$\text{Q} = \text{BEP in Units}$

$\text{FC} = \text{Fixed Cost}$

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

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

$\text{TC} \quad = \text{Total Cost}$

2. **Graphic Method**

BEP can be obtained by using graph too. A break even chart is used to graphically depict the relationships among revenues, variable costs, fixed costs and profit or losses. The no profit no loss point (BEP) is located at the point where the total cost and total revenue line cross. Below this point the firm bears losses and above this point, the firm earns profit.

Figure 2.1

Graphic Approach of BEP Analysis
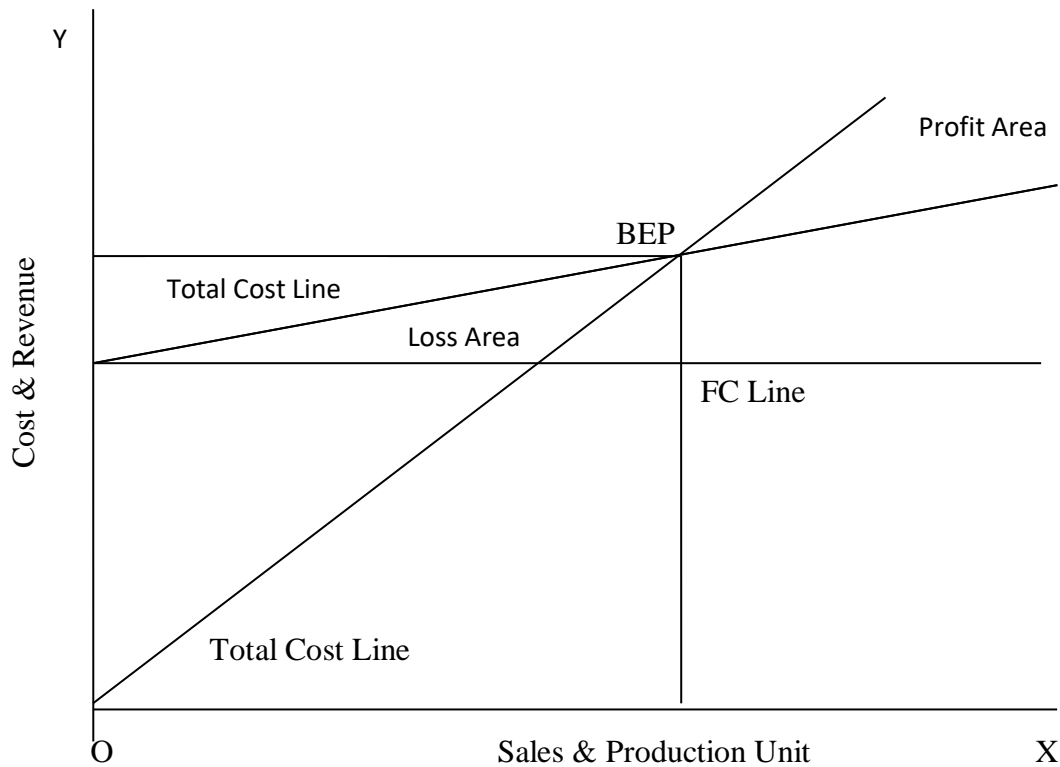
In the above chart, sales and production unit is plotted on horizontal or x-axis and vertical or Y- axis represents cost and revenue. In graph the fixed costs remain constant with relevant range; the fixed cost curve is parallel to 'ox' axis. Variable cost slope upward from the origin to right but depends on variable cost ratio. The total costs curve parallels the variable cost curve. BEP is located where the total cost line crosses the sales revenue line. The above graph clearly states that if the company can reach the point BEP, it can generate sufficient revenues to cover all its operating expenses. At this point total revenues equal the total cost. Here, the revenue curve break up (intersects) the total cost curve, that's why this point is called "break- even point". At BEP, total sales revenues = total cost   (Bajracharya,et al.,2004:230). If the actual sales are more than the break even sales, the organization will earn profit and if the actual sales are less than the break even sales, the organization will suffer from loss.

3. **Contribution Margin Method**

BEP also can be determined by using Contribution margin method. It can be defined as the excess of sales of amount over its VC. It is the difference

between the portions or rupees that left after variable expenses are deducted FC. It is particularly useful in determining BEP & target profit. It can be expressed as:

$$CM = \text{Total Sales Cost} - TVC$$
$$CMPU = SPPU - VCPU$$

Where,

$$Q = \text{BEP in Units}$$
$$FC = \text{Fixed Cost}$$
$$SPPU = \text{Selling Price per Unit}$$
$$VCPU = \text{Variable Cost per Unit}$$

2.1.12 PV Ratio

PV Ratio establishes a relationship between the CM & the sales volume. The two factors profit and volume are interconnected as well as dependent with each other. Profit depends upon sales, sales price to a great extend depends upon the volume of production. It can be expressed as;

1. **CVP Analysis for a Multi Product Firm**

Cost-volume-profit (CVP) analysis expands the use of information provided by breakeven analysis. A critical part of CVP analysis is the point where total revenues equal total costs (both fixed and variable costs). At this breakeven point (BEP), a company will experience no income or loss. This BEP can be an initial examination that precedes more detailed CVP analyses. The relative proportion of sales of product is called the sales mix or the product mix. In case of multi product firm the contribution for each product can be figured out by deducting its variable costs from sales revenue. The BEP for each product can be calculated only if the total FC of the firm are distributed and FC for each product is known. The firm's overall BEP can be calculated by dividing the total FC by the contribution ratio for the firm. For the multi product firm's PV ratio will be the weighted average of the PV ratio for all the products. The weight being the relative proportion of each products sale, The PV ratio for the multi product firm can be calculated by diving the total contribution from all products by total sales. A change in the product mix will not affect the firm" BEP and profit if each product has the same

28

PV ratio. However a change in the product mix can change the BEP ad product when product has equal PV ratios (Maheshwari 2000: 187).

2. **BEP for a Multi Product Firm**

In multi product firm we need to calculate the total BEP in aggregate. The sales mix is used to compute a weighted average of the several product unit contribution margin weighted by the relative sales proportion of each product. Following procedures are followed to calculate BEP for sales mix or multi product: (Munakarmi, 2003: 137)

- Calculate CM or PV ratio for each product.
- Calculate proportion of sales mix in units or values as follows.

2.1.13 CVP Analysis with a Single Constraint

Single production constraint exists when the production is constrained by only one resource or bottleneck resource. For example, if all the firms" products require the same basic raw materials, then the firms output will be limited by the available quantity of raw materials. Likewise if the firm's products require the same labor, then the firms output will be limited by the available labor hours. Scarce resource should be efficiently allocated in order to maximize the contribution margin. A particular simple and instructive situation arises when there is only one constraining resource. This can occur if the firm products are all produced on a single machine and output is limited by hours available on this machine. In same way, single resource constraint arises, if the firm's products are all produced with only one material and output is limited by availability for that material. When there is a constraint for a scarce resource to have alternative uses, the contribution per unit should be calculated for each of these uses. Then the available capacity for such scarce resource should be allocated to the alternative uses on the basis of contribution per scarce resource (Munakarmi, 2003:146)

2.1.14 CVP Analysis with Multiple Constraints

Where more than one scarce resource exist the optimum production programmed cannot easily be established by the simple process applied in single resource constraint. Under the circumstances simple allocation of resource or the basis of contribution margin per unit is neither feasible nor desirable. Contribution

margin per unit of scarce resource may be different for different ranking of product, because production processes are affected by many constrains factors rather than single constraint. In such situation, linear programming technique may used to optimize product mix. The linear programming formulation is required to determine a production plan which maximizes contribution from the product mix. Linear programming is a mathematical technique which shows how to arrive the optimum results, allocation available resources in a meaningful manner. It is basically concerned with the problem of allocating limit resources among competitive activities in an optimum manner. It is a technique to optimize the allocation of scarce resources in product mix problems which provides a valuable extension to cost volume profit analysis (Munakarmi, 2003:148).

Multiple production constraints exists when more than one resources limits the quantity that can be produced any time in an aggregate manner. In situation of multiple production constraints, contribution margin per unit of scarce resource approach used in single production constraints does not work, as ranking of products across different constraining resources will generally differ. Instead, linear programming helps us to make an optimal allocation or to determine an optimal product mix. Linear programming is a mathematical technique for finding the best uses of firm's limited resources. The basic requirements of a linear programming problem that fits to multiple production constraints problem also can be enumerated as: There must be an objective the firm wants to achieve i.e. criterion in which alternatives are assessed e. g. profit maximization (which is our concern at present) or cost minimization. As profits are not linearly related to sales volume, contribution is the appropriate term to be used instead of profit.
 There must be alternative courses of action; one of which will assist in achieving the objective.

- Resources or facilities must be in limited supply
- The variables in the problem must be interrelated

Objectives and constraints must be able to be expressed as mathematical equations or inequalities and these must be linear equations or inequalities.

2.1.15 CVP Analysis under Condition of Uncertainty

CVP analysis can be used for various purposes such as choosing between machine and products, planning of profit and most significant fixing up of selling price. Management uses this as a convenient tool of profit planning with giving consideration of risk and uncertainty involved in it. Our discussion of cost volume profit so far was based on the very assumptions that all costs and revenues were known with certainty. This assumption of single value estimate, which is far from reality naturally, limits the usefulness of CVP analysis for profit planning and other decision purposes. To prove it-self a better tool in the hands of manager, CVP analysis should incorporate risk and uncertainty in its parameters.

The fundamental variables used in the CVP analysis are

- the selling price per unit,
- the variable cost per unit,
- the total fixed cost and
- the expected sales volume of each product.

In any given decision problem, all four of these factors can be uncertain. To simplify the problem, however, we can first start with the uncertainties in sales volume assuming other factors are equivalent to certainty. Moreover, relative to the expected sales quantity, the costs and selling prices are quite certain; that is, for analytical purpose, the decision maker may be justified in treating several factors as certainty equivalents. A possible approach to incorporate risk and uncertainty in CVP analysis is to apply normal distribution theory. A normal distribution theory normally estimates the likelihood than the random variable will take in various possible values. Such an estimate is more or less based on personal judgment and id 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 the normal probability distribution will enable the decision maker to have an idea of the probability of different expected values of sales or cost or profit, that is the probability of sales or cost or profit having the value of zero or less, greater than zero and within the range of two values and so on. Thus, the normal provability distribution is an important statistical technique in the hand of decision maker for evaluating the riskiness of a firm.

2.1.16 Steps (Jumping) Fixed Cost and Multiple BEP

Break-even point is determined by dividing the fixed cost by the contribution margin per unit. If the fixed cost is jumping one (i.e. step fixed) then it is required to consider a different amount of fixed cost corresponding to each step. As such BEP is computed for each level of fixed cost. Some of these compute BEP may not be feasible because they may violate the limit imposed by the relevant range corresponding to the level of fixed cost considered in their computation. As a result real or actual BEP is determined through trial and error approach(Munakarmi, 2003:136).

2.1.17 Assumptions Underlying CVP Analysis

Break even analysis is the most useful technique of profit planning and control. It is a device to explain the relationship between cost, volume and profit. The discussion of the CVP analysis (or break even analysis) so far is based on the following assumptions(Pandey, 1994:241).

a. **Cost Segregation**

The total costs can be separated into fixed and variable components. Constant fixed cost is the total fixed cost that remains unchanged with changes in sales volume. Constant unit variable cost is the variable cost per unit is constant and total variable cost changes in direct proportion to the sales volume.

b. **Constant Selling Price**

The selling price per unit remains the constant; that, it does not change with volume or because of other factors.

c. **Constant Sales Mix**

The firm manufactures only one product or if there are multiple products the sales mix does not change.

d. **Coordinated Production and Sales**

Production and sales are coordinated, that is inventories remain the same.

2.1.18 Limitations of CVP Analysis

Assumptions limit the utility and general applicability of the CVP analysis. Therefore, the analysis should recognize these limitations and adjust data, wherever possible, to get meaningful results. The CVP analysis suffers from the following limitations(Pandey, 1999:214).

- It is difficult to separate costs into fixed and variable components.
- It is not correct to assume that total fixed cost would remain unchanged over the   entire range of volume.
- The assumption of constant selling price and unit variable cost is not valid.
- It id difficult to use the break even analysis for a multi product firm.

The break even analysis is a short run concept and has a limited use in long range planning. The break even analysis is a static tool.

2.1.19 Special Problems in CVP Analysis

There are three special problems in CVP analysis that are as follows :(Fago, 2003:235-236)

a. **The Activity Base**

When two or more production or activities are combined for break even analysis, the activity base is usually in amount. Product unit is used for single product. The activity base must be in additive units using a common denominator of volume or output in multiple products. For the company as a whole, net sale amount are usually the only satisfactory common denominators because manufacturing. Selling and administrative activities are expressed in combination.

b. **The Change in Inventory**

Usually, the budgeted change in inventories (i.e. finished goods and work in process) is immaterial in amount and thus may e disregarded in CVP analysis. On the other hand, when the change in budgeted inventory is significant, it should be included in the analysis.

- Management policy in inventory change is;
- Disregard the inventory changes.
- Included the inventory changes.

c. **The Non-Operating Incomes and Expenses**

The non-operating income and expenses (extra ordinary gains and losses) cause another problem in CVP analysis. The main problem is that whether they should be included or excluded in the analysis.

- Management policy may be to;
- Include the non operating income and expenses.
- Exclude the non-operating income and expenses.

2.1.20 Sensitivity Analysis

Sensitivity analysis is the measurement of elasticity of the change in CVP factors on break even point or given profit. The strategist should focus more on the factor, which is more sensitive or responsive for profit. To measure the sensitivity of CVP factors one can see the impact of certain percentage or amount change in volume price or cost factors on net profit. In other words, sensitivity analysis is the measurement of responsiveness in outcome with the changes in determinant variables. We know that the goal of a business enterprise is to maximize profit. Profit is the excess of revenue over the total costs.

Profit = Total Sales – Total Cost

Or, Profit = Sales Units x SPPU – Sales Units x VCPU – Fixed Cost – Taxes

So that, Profit = fx{sales volume, variable costs, fixed costs, taxes etc.}

But none of the factors remain unchanged; sometimes the manager can be intentionally change the price and cost factors as a part of strategic decision. But the strategy should focus more on the factor, which in the more sensitive or responsive for profit. So to measure the sensitivity of CVP factors, we can see the impact of certain percentage or amount change in volume, price, or cost factors on net profit (Bajrachaaya 2004:245) .

2.1.21 Cost Structure

There are three types of costs from their nature of variability. They are:

  a. **Variable Costs**

Variable cost varies in direct proportion to change in activity level. If the level of activity increases by 50% the amount of the variable cost also increases by 50% as well. Variable cost in total increases or decreases if the activity level increase or decrease but remain constant if expressed on a per unit basis. Change of variable cost effects to p/v ratio, BEP and net income. When variable cost increase, net income, p/v ratio and margin of safety will be decreased but it helps to increase BEP. It will more be more understood clearly with the help of the diagram presented below:

Figure 2.2

Variable Costs

Y

TVC Line

Total Variable cost

X

Production in Unit

Y

VCPU Line

VCPU Line

X

Production in Unit
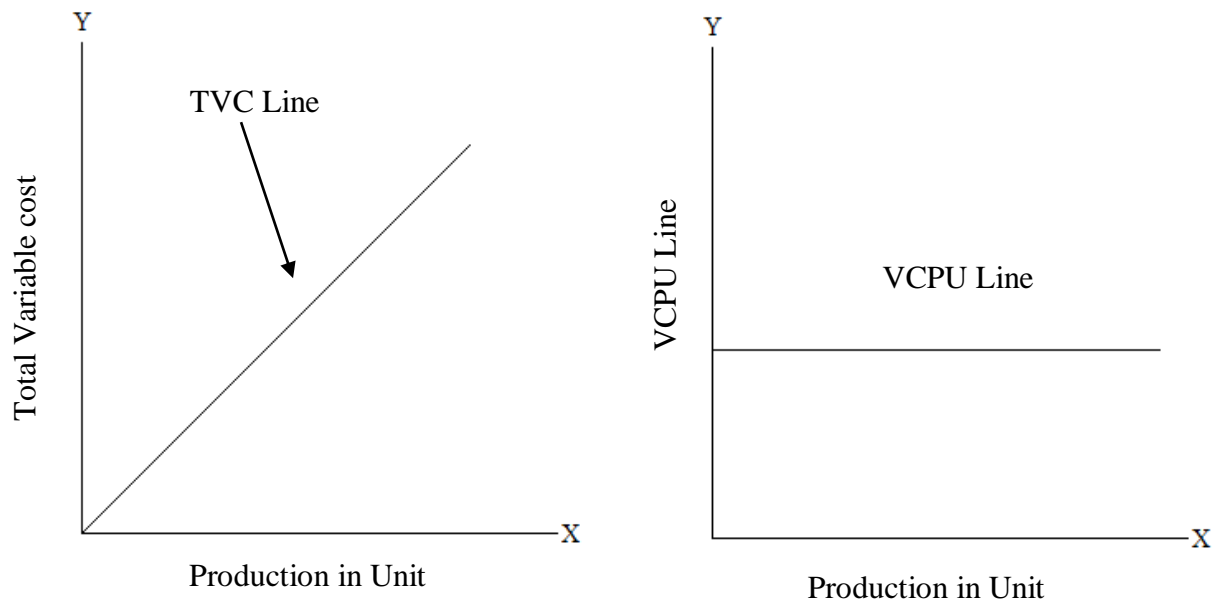
b. Fixed Cost

Fixed costs remain constant in total amount despite the changes in the level of activity. That is, the fixed cost remains unchanged in total as the activity varies. But the fixed cost per unit does changes as activity varies. Fixed cost per unit basis decrease as the level of activity increases and vice versa. When other factors remain unchanged, the change in fixed cost effects to BEP and net income. When the fixed cost is increased, the volume of BEP increases but the net income decreases or vice versa. Fixed cost is also called capacity cost. The concept of fixed cost may be more understood with the help of the following diagram.

Figure 2.3

Fixed cost
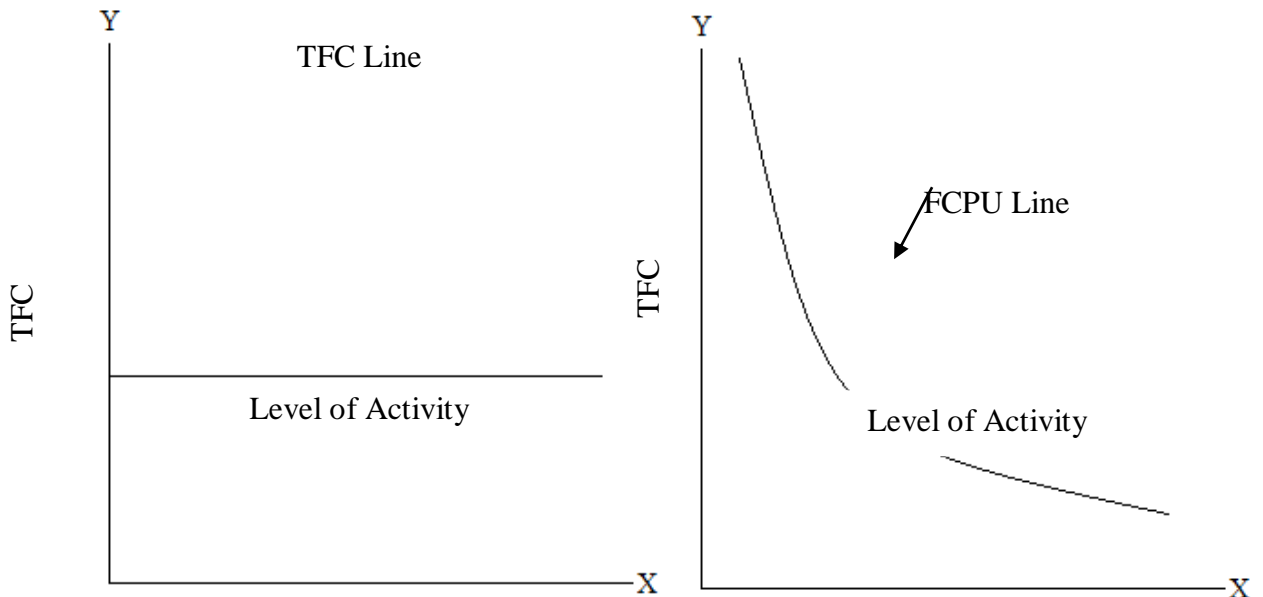
c. Semi Variable Cost

Expenditure that cannot be categorized as purely fixed or variables are termed as mixed cost or semi variable cost. Mixed cost contains both variables and fixed cost elements. Repair and maintenance, supervision, telephone, electricity charge are some examples of mixed cost. It should be separated into the variable and fixed elements for profit planning, cost control and decision making. In mixed cost, variable cost element is added to the fixed cost element as such mixed cost line slopes upward in the graphs.

Figure 2.4

Semi Variable Cost

Production Units

Production Units
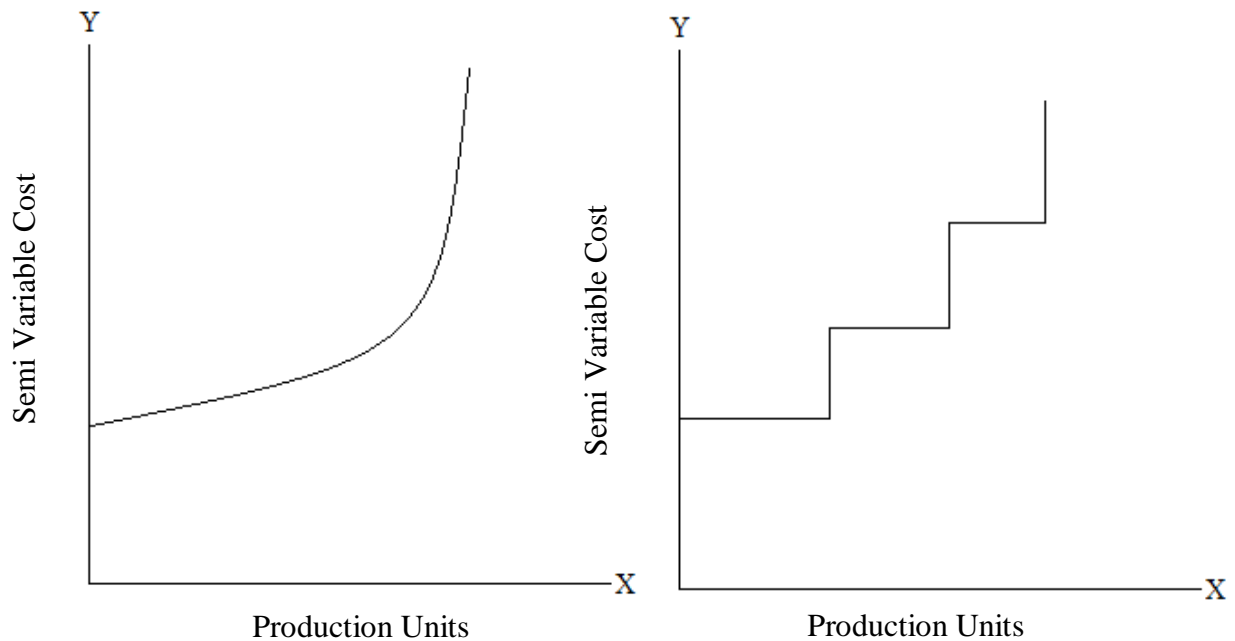
2.1.22 Risk Measurement: Operating Leverage and Break Even Point

Operating leverage is a measures of the extent to which fixed costs are being used inorganization. The relationship of a company"s variable and fixed costs is reflected in its operating leverage. Generally highly labor intensive organizations have high variable costs and low fixed costs and this have low operating leverage and a relatively low break even point. Conversely, organizations that are highly capital intensive have a cost structures that includes low variable and high fixed costs which reflects high operating leverage with high break even point. It shows that fixed costs and operating leverage has direct relationship. Higher the amount of fixed costs higher the operating leverage and break even point and viceversa. In other words, the firm with relatively high operating leverage has proportionally high fixed expenses; the firms break even point will be relatively high(Munakarmi, 2003:145).

Operating leverage tells us how profit change in sales. It is evident that profit change more rapidly than sales. Why do profit change more rapidly than the sales? It is because some costs do not change say if sales decline variable costs also decline in the same ratio so that contribution margin also decline proportionately. But fixed costs do not decline so, the net operating income decline more rapidly. The some tiling applies in the case of increase well. Sales revenues changes but some parts of

costs, known as fixed costs, remain unchanged. This usually net income changes more rapidly. This change is called the operating leverage.

Operating leverage can be measured in terms of the "Degree of operating leverage" (DOL). DOL shows the times of percentage change in net operating income of the given percentage change in sales. DOL may be defined as the percentage change in net operating income or EBIT associated with a given percentage change in sales(Pandey, 2004:245).

$$\text{DOL} = \frac{Percentage\ Change\ in\ Net\ Operating\ income}{Percentage\ change\ in\ sales}$$

Alternatively,

$$\text{DOL} = \frac{Contribution\ Margin}{Net\ Operating\ income}$$

$$\text{DOL} = \frac{Q(SPPU-VCPU)}{Q(SPPU-VCPU)-Fixed\ cost}$$

Where,

Q = Total Sales in unit

SPPU = Selling Price in unit

VCPU = Variable Cost in Unit

As We Know,

$$\text{BEP (in Units)} = \frac{fixed\ cost)}{SPPU-VCPU}$$

Leverage decision is meant to substitute variables cost by the fixed costs. To create a degree of operating leverage means the employment of higher amount of fixed cost which eventually increases the break even point also. No DOL is to be said when the DOL occur "1" and in this situation BEP comes to "0".

Higher fixed cost increases the DOL and they also increase the break even point, so there is close relationship between the degree of operating leverage and the break even point. A high DOL and high BEP both are indicators of higher risk (Bajracharya, 2004:24).

2.1.23 Segregation of Semi-Variable (Mixed) Costs

Cost volume profit analysis requires segregation of all costs between two parts; fixed and variable. This means that the semi variable cost will have to be segregated into

fixed and variable elements. This may be done by any one of the following methods (Maheshwori, 2000:162);

a. **Levels of Output Compared to Levels of Expenses Method**

According to this method, the output at two different levels in compared with corresponding level of expenses. Since the fixed expenses remain constant, the variable overheads are arrived at by the ratio of change in expenses to change in output whereas:

$$\text{Variable Element} = \frac{Change\ in\ amount\ of\ expenses}{Change\ in\ activity\ level}$$

b. **Range Method**

This method is similar to levels of output compared to levels of expenses method except that only the highest and lowest point of output is considered out of various levels. This method also designated as "High and Low" method. The high low method is explained step by step as follows;

Step I – The highest pair and the lowest pair are selected.

Step II – The variable rate „b" computed by using the following formula

$$\text{Variable Rate} = \frac{Different\ in\ cost}{Different\ in\ activity\ level}$$

Step III – The fixed cost portion is computed as:

Fixed cost portion = total cost – variable cost

c. **Degree of Variability Method**

In this method, degree of variability is noted for each item of semi variable expenses. Some semi variable items may have 30 % variability while others may have 70% variability. The method is easy to apply but difficulty is faced in determining the degree of variability.

d. **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 expenses is plotted on the vertical axis (Y – axis) and activity measure is plotted on the horizontal axis (X axis). The method is explained below.

- The volume of production is plotted on the horizontal axis and the costs are plotted on the vertical axis. Corresponding to each volume of production and costs are then plotted on the paper, thus, several points are shown on it.

- A straight line of best fit is then drawn through the points plotted. This is the total cost line. The point, where this line intersects the vertical axis is taken to be amount of fixed element.

- A line parallel to the horizontal axis is drawn from the point where the line of best fit intersects the vertical axis. This is the fixed cost line.

- The variable cost at any level can be known by nothing difference between fixed cost and total cost line

The scatter – graph method is relatively easy to use and simple to understand. However, it should be used with extreme caution because it does not provide any objective test for assuring that the regression line drawn is the most accurate fit for the underlying observations.

e. **Least square Method**

Least square method is a statistical method. It is an accurate and trusted method of segregation fixed and variable cost from mixed cost. In this method, first of all, variable cost per unit is calculated. After this, the fixed cost is calculated. The fixed cost and variable cost can be separated by adopting the stepwise process as shown below.

The volume of production is plotted on the horizontal axis and the costs are plotted on the vertical axis. Corresponding to each volume of production and costs are then plotted on the paper, thus, several points are shown on it.

A straight line of best fit is then drawn through the points plotted. This is the total cost line. The point, where this line intersects the vertical axis is taken to be amount of fixed element.

A line parallel to the horizontal axis is drawn from the point where the line of best fit intersects the vertical axis. This is the fixed cost line.

The variable cost at any level can be known by nothing difference between fixed cost and total cost line

The scatter – graph method is relatively easy to use and simple to understand. However, it should be used with extreme caution because it does not provide any

objective test for assuring that the regression line drawn is the most accurate fit for the underlying observations.

2.1.24 Financial Statement Analysis

Financial statement at least refers to the two statements which are prepared by a business concern at the end of the year. These are;

Income statement or trading and profit and loss account; it is prepared by a business concern in order to know the profit earned and loss sustained during a specified period.

Position statement or balance sheet; it is prepared by a business concern on a particular date in order to know its financial position. The above mentioned statements collectively called financial statements of a company(Jain., 1991:VI/1).

Analysis is the process of critically examining in detail accounting information given in the financial statement. For the purpose of analysis, individual items are studied; their interrelationships with other related figures established, the data are sometimes rearranged to have better understanding of the information with the help of different techniques or tools for the purpose. Financial analysis is helpful in assessing the financial position and profitability of a concern. This is done through the comparison of ratios over the period(Jain,1991:VI/4) .

Absolute figures are valuable but they standing alone convey no meaning unless compared with another. Accounting ratios show inter-relationship which exist among various accounting data. When relationships among various accounting data supplied by financial statements are worked out, they are known as accounting ratios.

Ratio may be classified in a number of ways keeping in view the particular purpose. Ratios indicating profitability are calculated on the basis of the profit and loss account are called profitability ratios and those ratios indicating financial position are calculated on the basis of the basis of the balance sheet are called financial ratios.

2.2   Review of Related Studies, Journal & Articles

There have been made few researches in the field of CVP analysis of commercial banks. An attempt is made to review few thesis or researches which has been related topics which are as follows:

2.2.1   Review of Related Studies

Welsh Etal (1992:531), Cost, volume and Profit analysis includes the related concepts of

- Contribution Analysis and
- Break Even Analysis

These concepts entered the mainstream of management accounting starting in the 1930's that rest upon the concept of cost variability (i.e. flexible or variable expenses budgets), Contribution analysis involves a series of analytical techniques to determine and evaluate the effects on profits of changes in sales volume, sales prices, fixed expenses and variable expenses. Basically, it applies the concept of a contribution margin income statement: Revenues minus variable expenses equals contribution margin, and contribution margin minus fixed expenses equals profit. Break-even analysis focuses on the breakeven point: Fixed expenses divided by the contribution margin equals break even sales volume (the point at which profit is zero because revenue equals total cost). The result of breakeven analysis is usually graphed to show the relationships between revenue (i.e. sales), fixed expenses, and variable expenses, within a relevant range of sales volume.

CVP analysis is concerned with examining the relationship between changes in volume and changes in total revenue and costs in the short term. Drury has compared the economist's and accountant's models of CVP behavior. The major differences are that the total cost and total revenue functions are curvilinear in the economist's model, whereas the accountant's model assumes linear relationships. However, we have noted that the accountant's model was intended to predict CVP behavior only within the relevant range, where a firm is likely to be operating on constant returns to sale. A comparison of the two models suggested that, within the relevant production. The study of the interrelationship of sales costs and net income is usually called cost volume profit analysis. CVP analysis examines the response of profit to change in volume. It relies on linear cost analysis and on linear revenue assumptions. To gain understanding of CVP analysis, the common examples of a firm which produces only single product will be used. The analysis will be expanded to cover firms with several products by multiple divisions. CVP analysis consists

essentially in examining the relationship between changes in volume and changes in profit. The scope of CVP analysis ranges from the determination of the optimal output level of a single product department to the determination of the optimal mix of large multi product firm. C-V-P analysis is concerned with examining the relationship between changes in volume and changes in total revenue and costs in the short term.

Horngren, Sundem and William (2004:62),CVP Analysis examines the behavior of the total revenues, total cost and operating income as changes occur in output level, the selling price, the variable cost per unit and/or fixed cost of product". They mean to say that CVP is related to totality of revenues, cost and operating income in the output level.

Cost-Volume-Profit (CVP) analysis is the process of examining the relationship among revenues, costs and profits for a relevant range of activity and for a particular period. It is one of the most important and powerful tools that managers have at their command in short-term planning. It helps managers to understand the interrelationship between cost, volume and profit in an organization by focusing interaction between the following five elements.

- Price of Product
- Volume of Activity
- Variable Cost
- Fixed Cost
- Sales Mix.

CVP analysis seeks to estimate the profit or loss at different activity level. The aim of cost- volume-profit analysis is to have a fair estimate of

- Total cost
- Total Revenue and
- Profit at various sales volumes.

Munakarmi, (2002:123), CVP analysis provides only an overview of the profit planning process. It provides management with a comprehensive overview of the effects on revenue and cost of all kind of short-run financial changes. It is

related to profit, sales volume and cost. The study of the interrelationship of sales costs and net income is usually called cost volume profit analysis. CVP analysis examines the response of profit to change in volume. It relies on linear cost analysis and on linear revenue assumptions. To gain understanding of CVP analysis, the common examples of a firm which produces only single product will be used. The analysis will be expanded to cover firms with several products by multiple divisions. CVP analysis consists essentially in examining the relationship between changes in volume and changes in profit. The scope of CVP analysis ranges from the determination of the optimal output level of a single product department to the determination of the optimal mix of large multi product firm. C-V-P analysis is concerned with examining the relationship between changes in volume and changes in total revenue and costs in the short term. Drury has compared the economist's and accountant's models of CVP behavior. The major differences are that the total cost and total revenue functions are curvilinear in the economist's model, whereas the accountant's model assumes linear relationships. However, we have noted that the accountant's model was intended to predict CVP behavior only within the relevant range, where a firm is likely to be operating on constant returns to sale. A comparison of the two models suggested that, within the relevant production range, the total costs and revenue functions are fairly similar

2.3 Review of Related Thesis

Bhushal (2006), had conducted a research entitled *"Use of Cost Volume Profit Analysis to plan the profit in Nepalese Manufacturing Companies (A case study of Bottlers Nepal Ltd.)"*.The main objective of his study is to examine the case of CVP analysis to plan the profit in bottlers Nepal Limited.

The other specific objectives of this study are:

- To study the present application of CVP analysis in Bottlers Nepal Limited.
- To study the profitability and financial position of Bottlers Nepal Limited.
- To analyze the CVP and its impact in profitability of Bottlers Nepal Limited.

His research was based on the secondary data. His major findings in his research are as follows:

- The company has not maintained the broad and long-range objectives and periodic report and objectives are limited to the high ranking official only.

- Sales and promotion target are not achieving because there is not an effective forecasting system.

- There is no any effective plan for effective plan for cast reduction and control. And lack of effective cost control programmed.

- The profit trend of the company is not satisfactory.

- The company has no details and systematic expenses plan. The fixed variable and mixed expenses plan is the necessary elements for profit planning and control.

- BNI has not proper practice of segregating the costs into fixed and variable or controllable and non-controllable.

Adhikari (2007), conducted a research entitled *"Cost-Volume-Profit Analysis of Nepal Lube Oil Limited"*. Adhikari had concerned his study to examine the practice of CVP practice in the Monopoly industry. It was submitted to Shanker Dev Campus, TU, Kathmandu at August 2007.

The specific objectives of the study were:

- Whether or not NLO Ltd. is practicing CVP analysis.

- In which areas of the business operation, CVP analysis can be applied to improve the competitiveness of the company.

- Which parts i.e. CM, BEP, MOS etc. of CVP analysis are mostly practiced and which are not practiced till now.

His major findings are as follows

- Different types of profit planning tools, which are used in the academic field, are not found applied by NLO.

- CVP analysis is not applied by NLO as no segregation of cost in to fixed andvariable, which is the hardcore of CVP analysis.

- Company has no clear-cut boundaries to separate cost into fixed and variable. The classification of cost is not scientific and systematic. So, NLO has not been able to use

- CVP analysis and make the realistic and smart budget.

Shakya (2009), had studied on the *topic "A study on Cost Volume and Profit Analysis of soaltee Hotel Limited."* Miss Shakya had concerned her study to examine the practice of profit planning and control in the hotel industry in Nepal. It was submitted to Shanker Dev Campus, TU, Kathmandu at July 2009.

The specific objectives of the study were

- To study the nature of direct and indirect cost and component of cost Hotel.
- To evaluate the profitability, financial position and sensitivity of soaltee Hotel's activities.

Her major finding is as follows:

- The main focus of hotel is to maximizing revenue but hotel hasn't focus of cost planning and controlling.
- Soaltee Hotel Limited is service Providing company but it hasn't given emphasis to reduce variable cost ratio.
- Market study on demand and pricing has not be carried out.

Yadav (2010), conducted a research entitled *"Cost Volume and profit Analysis in Nepal Aushadhi limited."* Mr. Yadav has concerned her study to examine the practice of profit planning and control in the manufacturing companies in Nepal. It was submitted to Shanker Dev Campus, TU, Kathmandu at may 2010.

The specific objectives of the study were:

- The study of application of CVP analysis is NAL.
- To evaluate the sensitivity of profit ability.
- To analyze the CVP and its impact in profitability of NAL.
- To study the profitability and financial position of NAL.

His major finding is as follows:

- NAL have not applied suitable scientific method of cost classification.
- NAL couldn't put stress an effective utilization of fixed cost so it bearing higher amount of unfavorable capacity variance.
- NAL have not considered the cost volume profit relation while fixing the price its product.

2.4 Research Gap

Most of the past research studies about profit planning or CVP Analysis basically related with any manufacturing company or industries. It is hardly done in the field of banking sector. The research could find very few numbers of studies related to commercial bank i.e. Himalayan Bank Ltd. Such study pointed out still CVP is not practiced and recommend implementing effectively for profit planning. Some research was done on CVP analysis as an important tool of PPC relating to HBL. Some dissertation focused on PPC of commercial banks would be found but in different faculty.

This study shall be a new one in its field as no study has been done so far particularly in Himalayan Bank Ltd. This study has tried to indicate the role of CVPA & its effectiveness for making profit. This study shows the financial position of Himalayan Bank Ltd. Now a day, various banks are practicing CVP to measure profit and to measure competitiveness and performance in the time of globalization. So, this study have played important role to fulfill the gap between previous studies. It shows how CVP analysis is important tool of PPC to improve the performance of bank.

CHAPTER-III
RESEARCH METHODOLOGY

A systematic study needs to follow a proper methodology to achieve pre determine objective. Research methodology may be defined as "a systematic process that is adopted by the researcher in studying problem with certain objective and view". In other word, research methodology describes the methods and process applied in the entire aspect of the study focus of data, data gathering instrument and procedure, data tabulating and processing and methods of analysis. It is really a method of critical thinking by defined and redefining the problems, formulating hypothesis or suggested solution and collecting and organizing and evaluating data, making deduction and making conclusions.

Research methodology is a path from which we can solve research dilemma systematically to accomplish the basic objective of the study. It consists of a brief explanation of research design, nature and sources of data, method of data collection and methods of tools used for analyzing data.

3.1   Research Design

A research design is the arrangement of conditions for collection and analysis of data that aim to combine relevance to the research purpose with economy in procedure. Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to objective of this study. To achieve the objective of this study, descriptive and analytical research design has been used.

It is the process which gives us an appropriate way to reach research goal. It includes definite procedures and techniques which guide in sufficient way for analyzing and evaluating the study. This study is carried out by using both quantitative and qualitative analysis methods. Mostly, secondary data has been used for analysis, but the discussion and personal interview with the concerned employees of the selected bank is also used for qualitative analysis. Hence, research design of this study is based on descriptive and analytical method.

3.2 Population and Sample

There are 32 commercial banks in Nepal according to NRB. Out of these, HBL is selected to CVP analyze. The annual financial report is the population of the study. It is quite difficult to adopt the whole population in this study, sample of the 5 years financial statements are take for the study. The sample of the study comprises financial statement, balance sheet and profit & loss a/c of HBL.

3.3 Nature and Source of Data

For the purpose of this study, data are collected mainly from the secondary source. The secondary data are based on the second hand information. Secondary data were gathered much more quickly than primary. Secondary source are bulletins and newspapers of selected banks, annual reports, official document, reference material collected from library.

3.4 Method of Data Collection

It indicates the sources of data and how they collected. In this study data are collected through published sources. They were collected from the correspondent offices and their respective websites. The annual reports of HBL, NRB publications, the data regarding the profile of EBL and other related documents were collected from internet websites. Unpublished master's thesis, books, research papers, articles, journals have been collected mainly form Centre Library of Tribhuvan university, library of Shanker Dev Campus and NRB Magazines and newspapers were from concerned authorities.

After collecting data, as necessarily required, they were separated and analyzed presentation and analysis of the collected data is the main theme of the research work. Collected data were first presented in systematic manner in tabular forms and then analyzed by applying different financial and statistical tools to achieve the research objectives. Besides these, some graph, charts and tables have been presented to analyze and interpret the finding of the study.

3.5   Data Analysis Tools

Various financial and statistical tools will be used to complete the research study such as ratio analysis, coefficient of correlation and P. E. For presentation purpose, different types of tables, charts, figures and graphs are used as per necessary.

3.5.1 Financial Tools

Financial analysis is the process of identifying the financial strengths and weaknesses of the organization by properly establishing relationships between the items of the balance sheet and the profit and loss account. Ratio analysis is a powerful tool of financial analysis. A ration is designed as "the indicated quotient of two mathematical expressions" and as "the relationship between two or more things". In financial analysis, ratio is used as a benchmark for evaluating the financial position and performance of a firm. Several ratios, calculated from the accounting data, can be grouped into various classes according to the financial activity and function to be evaluated.

1. **Net Profit Margin Ratio**

NPMR shows the ratio between NP and sales of bank. Higher the NPMR indicate the highest overall efficiency of business. It can be obtain from following formula:

$$\text{NPMR} = \frac{NP}{Sales}$$

2. **Operating ratio**

The ratio between operating cost and sales is known as operating ratio. Operating cost includes administration expenses, interest expenses, personnel expenses, etc. The ratio can be obtained by following formula:

$$\text{Operating Ratio} = \frac{Operating\ Expenses}{Sales}$$

3. **Interest Income to Loan Ratio**

Ratio between interest income & loan is known as interest income to loan ratio. Higher the interest income to loan ratio measure the better financial position of the bank.

$$\text{Interest Income to Loan Ratio} = \frac{Interest\ Income}{Loan}$$

4. **Passive Loan to Total Loan Ratio**

These loans which may not be able to recover loan from customer. It is hard to collect so, such loan should be reduced. Ratio between passive loan and total loan is known as passive loan to total loan ratio.

$$\text{Passive Loan to Total Loan Ratio} = \frac{Passive\ Loan}{Total\ Loan}$$

5. **Net Profit to Total Assets Ratio**

NP to TA ratio shows the ratio between NP and TA of bank. TA includes fixed assets,cash balance, loan and bill purchase, etc. TA can be obtaining from balance sheet of the company. Higher NP to TA ratio shows the better performance of the bank. It can be obtain from the following formula.

$$\text{NP to TA Ratio} = \frac{NP}{TA}$$

6. **Net Profit to Total Income Ratio**

NP to total income ratio shows the ratio between NP and total income of bank. Total income includes interest income, commission and discount, sundry income, non operating income, etc. As higher NP to T income ratio shows the better performance of the bank. It can be obtain from the following formula.

$$\text{NP to TI Ratio} = \frac{NP}{Total\ Income}$$

3.5.2   Statistical Tools

1. **Coefficient of Correlation**

Correlation is a statistical tool design to measure the degree of association between two or more variables. In other word if the changes in one variable affects the changes in other variable, then the variable are said to be co-related when it is used to measure the relationship between two variables, then it is called simple correlation. The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study. The result of coefficient of correlation is always lying between +1 and -1.The formula for the calculation of coefficient of correlation between X and Y is given below.

$$r = \frac{\sum x_1 x_2}{\sqrt{\sum x_1{}^2\ \sum x_2{}^2}}$$

Where,

$$r \quad = \quad \text{Correlation coefficient}$$

$$\sum x_1 \quad = \quad X_1 - \overline{X}_1$$

$$\sum x_2 \quad = \quad X_2 - \overline{X}_2$$

Under this topic, Karl Pearson's correlation coefficient is used to measure the degree of relationship between the following variables.

The interpretation of calculated valve of correlation coefficient by following way.

➢ If $r = 0$, then there is no correlation between variables.

➢ If $r > 0$, then there is positive correlation between variables.

➢ If $r < 0$, then there is negative relation between variables.

➢ If $r = +1$, then there is perfect positive correlation.

➢ If $r = -1$, then there is perfect negative correlation.

3.6   Data Analysis Technique

3.6.1   Tabular Presentation

Tabular presentation is used to summarize the raw data in a compact form so as to facilitate behavior overall situation of the capital market. The tabular presentation has provided a basis for further analysis and interpretation of the collected data from primary and secondary sources.

3.6.2   Diagrammatic Representation

The diagrammatic presentation is used in certain portion of the study where the other forms of statistical analysis are unable to present better interpretation. The simple pie chart is used for the purpose of diagrammatic representation in the study in order to project the relationship between the variables under study.

3.6.3   Graphical Presentation

As it is said that the wandering of a line is more powerful in its effect on the mind than a tabulated statement; graphical presentation tool is also utilized for representing statistical facts and information. It is also utilized where the nature of data is such that it represents the trend of occurrence over the period of time. It is also applied to the situation where large mass of data is to be dealt with proper degree of accuracy.

CHAPTER-IV
PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the presentation, analysis and interpretation of relevant data and information of planning system and budgeting procedure in a commercial bank with the specific context of Himalayan Bank Ltd. To accomplish these objectives, the various functional budgets analyze and related data are presented in a systematic way in tabular forms and graph charts. To obtain best result, the data and information have been analyzed according to the research methodology as mentioned in Chapter Three.

The main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating and performing statistical analysis. (Wolff & Pant, 2004)

4.1 Income from Interest

As income from interest is the main source of income of bank. It has to be very aware while doing investment. Such income is classified under various heads or source such as loan, overdraft, agency balance, investment etc.

Table: 4.1

Item wise Income from Interest (Rs. In millions)

particulars	066/67		065/66		064/65		063/064		062/063	
	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.
Loan and advanced	90.08	2836.25	79.46	1861.04	73.55	1444.25	70.00	1242.90	70.13	1140.69
investment	6.86	216.04	15.15	354.95	10.25	201.31	10.79	191.56	10.59	172.24
At agencies	0.03	0.48	0.29	6.80	0.56	10.90	0.37	6.63	0.44	7.20
Money at call and short notice	0.29	9.26	0.33	7.73	1.34	26.29	1.47	26.18	1.27	20.61
other	2.75	86.58	4.77	111.69	14.31	280.93	17.37	308.36	17.57	285.76
Total		**3148.61**		**2342.21**		**1963.68**		**1775.63**		**1626.50**

Source: Annual Reports of Himalayan Bank Limited

According to the table 4.1 the total income from interest is Rs. 1626.50 in FY 062/63, Rs.1775.63 in FY 063/64, Rs.1963.68 in FY 064/65, Rs.2342.21 in FY 065/66 and Rs. 3148.61 in FY 066/67. It means the income from interest earn is in increasing trend. It can be defined also in percentage as interest income from loan & overdraft covered out of total interest income is 70.13 %, 70.00 %, 73.55 %, 79.46 %, & 90.08 % in FY 062/63, FY 063/64, FY 064/65, and FY 065/66 & FY 066/67 respectively. From income from investment in FY 062/63, FY 063/64, FY 064/65, and FY 065/66 & FY 066/67, are 10.59, 10.79, 10.25, 15.15, &6.86 respectively. Interest from loan and overdraft covered is higher than income from investment.

As income from interest is the major source of income every banks need to invest after intensive survey of industries, organizations, institutions etc. For effective and efficient income, finance should be made on reliable ventures only. As per NRB directives interest income on loans, overdraft, and advances are recognized on cash basis.

It is in increasing trend the practiced followed by bank is appropriate that shows the high correlation between interest income and loan and bill purchased. As it provide loan, it returned back with high profit interest, so interest increased each year i.e. if investment or loan and bill purchased increased, the interest income also increase.

4.2 Commission and discount

It is another source of income generation. All commissions" income is booked at the time of transaction. Whatever charge or commission has to take for service rendered, customer has to debit at the time of transaction. Commission is received on LC, remittance, annual fees on cards, etc.

Table: 4.2

Item wise Income from Discount and Commission (Rs. In millions)

particulars	066/67		065/66		064/65		063/064		062/063	
	%	**Rs.**	**%**	**Rs.**	**%**	**Rs.**	**%**	**Rs.**	**%**	**Rs.**
Bills Purchase & discount	6.11	16.5	7.73	21.98	6.55	13.29	6.95	13.42	9.45	15.64
commission	66.68	180.2	73.63	209.34	73.78	149.69	69.67	134.62	69.60	115.16
other	27.22	73.56	18.64	52.99	19.67	39.91	23.39	45.19	20.95	34.66
total		**270.26**		**284.31**		**202.89**		**193.23**		**165.46**

Source: Annual Reports of HBL

The above table 4.2 shows the income from commission and discount. According the table the total bills purchased and discount generated during these five years of period are Rs 270.26, Rs 284.31, Rs 202.89, Rs193.23, & Rs 165.46.

From above, the bills purchase and discount is 6.11%, 7.73%, 6.55%, 6.95%&9.45% in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively. It also shows commission earned is 66.68%,73.63%,73.78%,69.67%,&69.60% whereas Other income is 27.22%,18.64%,19.67%,23.39%,&20.95% in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively. As banks are mushrooming in the country it become thought to earn high profit there isn't any monopoly left. As

political uncertainty increases many students going abroad hence it increases commission percentage so profit level increasing each year.

Figure: 4.1

Item wise Income from Discount and Commission
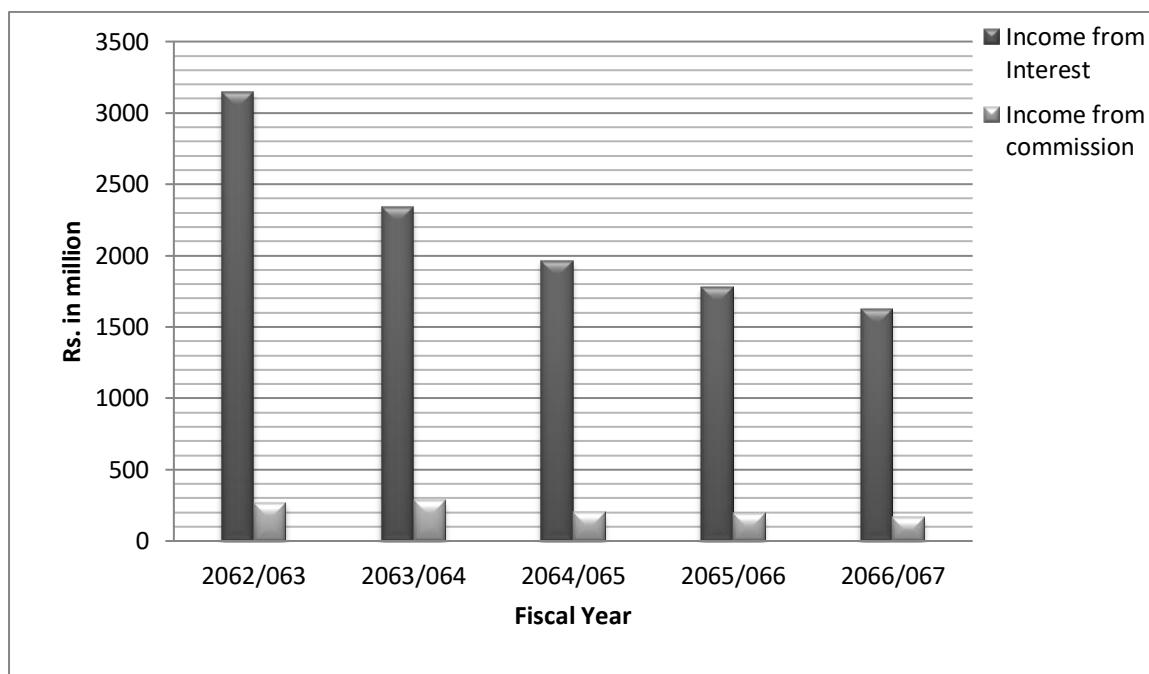
4.3 Interest Expenses

Bank not only makes income on various heads but also have to expense on it. Such expenses can be personnel expenses, office expenses, interest etc. As bank take interest on loan and overdrafts in same way it has to pay interest on deposits. Such interest can be different according to nature of deposits. It can be differentiate by following table 4.3.

Table: 4.3

Interest Expenses (Rs. In millions)

particular	066/67		065/66		064/65		063/064		062/063	
	%	**Rs.**	**%**	**Rs.**	**%**	**Rs.**	**%**	**Rs.**	**%**	**Rs.**
Fixed deposit	0.46	709.66	0.28	260.93	0.35	288.43	0.41	314.4	0.37	240.01
Saving deposit	0.36	560.24	0.46	433.81	0.42	347.8	0.40	313.38	0.41	264.09
current deposit	0.14	205.67	0.15	144.81	0.17	137.04	0.14	104.84	0.17	109.77
At loan(borrowing)	0.04	77.96	0.11	95.23	0.06	50.47	0.05	34.79	0.05	34.96
Total		**1553.53**		**934.78**		**823.74**		**767.41**		**648.83**

Source: Annual Reports of HBL

According to table 4.3, the total interest expense was also in increasing trend. In the FY 062/63 it was Rs.648.83. In the FY 063/64 it was Rs767.41 in FY 064/65Rs 823.74 in FY 065/66 it was Rs 934.78 and 066/67 it was increase Rs1553.53. interest expenses play vital role in profit hence it need proper planning to make profit each year.

4.4   Personnel/Employee Expenses

Personnel expenses are that for employees of the office. Without employees work can't be done. These expenses are regarded as fixed cost such as salary, allowance, uniform, medical and insurance etc.

Table: 4.4

Personal expenses (Rs. In millions)

particular	066/67		065/66		064/65		063/064		062/063	
	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.
Salary	41.08	170.47	46.36	167.34	49.98	153.7	45.19	123.58	40.5	95.12
allowance	36.41	151.09	30.79	111.14	29.00	89.19	32.20	88.05	29.24	68.66
Contribution to PE	3.65	15.16	3.77	13.6	3.61	11.11	3.73	10.19	3.74	8.78
training	0.77	3.18	1.53	5.54	1.49	4.58	2.32	6.34	2.95	6.93
uniform	1.30	5.4	1.01	3.63	0.79	2.42	0.99	2.72	1.52	3.56
insurance	2.89	11.99	2.34	8.45	2.20	6.78	2.06	5.63	2.64	6.21
gratitude	7.45	30.93	12.84	46.34	11.12	34.21	11.75	32.14	8.65	20.3
other	6.45	26.77	1.37	4.94	1.80	5.55	1.76	4.82	10.75	25.25
total		414.99		360.98		307.54		273.47		234.81

Source: Annual Reports of HBL

According to the table 4.4 personnel expenses was in increasing trend every year. It shows Rs234.81 in FY 062/63. Similarly, in the FY 063/64 it is Rs.273.47 and in the FY 064/65 it is Rs.307.54. In the FY 065/66, it is Rs360.98 and Rs.414.99 in the FY 066/67.

It shows how much amount spending on employee salary, allowance, PE, training, etc. Every year many employees recruiting but spent less percent of profit on such items. From above table, it can be analyzed that under each heading the amount spent in is in increasing trend each year but on the basis of total percent it is in decreasing trend. Hence, it is fluctuating every year.

4.5   Sundry Income

Bank charges various service charges for providing services. It is also another source of income such service can be renewable charges, vault and safe charge, stop payments, Remittance etc. These amounts are little but help in bank's income. The following table shows the sundry income of Himalayan Bank Ltd.

Table: 4.5

Sundry income/ other operating income (Rs. In millions)

particular	066/67		065/66		064/65		063/064		062/063	
	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.
Safe charge	7.31	8.21	18.56	8.6	12.88	8	18.34	7.4	10.42	5.45
Credit card issue and renewal charge	38.81	43.6	42.12	19.52	23.64	14.68	26.30	10.61	9.50	4.97
Debit card issue and renewal charge	2.15	2.42	3.67	1.7	1.72	1.07	2.55	1.03	2.75	1.44
Telex/ T.T	10.67	11.99	21.08	9.77	17.03	10.58	26.25	10.59	21.9	11.5
other	41.05	46.12	14.57	6.75	44.73	27.78	26.55	10.71	55.35	28.96
Total		**112.34**		**46.34**		**62.11**		**40.34**		**52.32**

Source: Annual Reports of Himalayan Bank Limited

The table shows that the sundry income in FY 062/63 is Rs52.32 and FY 063/64 it is decrease in Rs 40.34 then next year 064/65 it increase Rs62.11 and again it decrease in 065/66is Rs 46.34 then 066/67 it is increase Rs112.34 it is both increase and decrease trend During the five years of period.

It can be analyzed on percentage as table shows that Himalayan Bank earn 7.31%,18.56%,12.88%,18.34%,and 10.42% under vault and safe charge in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively. It earn 38.81%,42.12%,23.64%,26.30% and 9.50% in credit card charge as well 2.15%, 3.67%,1.72%,2.55% and 2.75% under debit card and renewable charges. Same on TT 10.67% 21.08%, 17.03%, 26.25% and 21.9% respectively.

It shows that charges earn these five years are in fluctuating trend. As insecurity increase in the country many people depend on banks lockers for safety of valuable property. Users of credit and debit cards, sct cards increased and students going

abroad for further studies also increase hence such income increase each year that effect on profit percent.

4.7   FOREX

It is regarded as Revaluation Gain. Income realized from the difference between buying and selling rates of foreign currency is accounted under trading gain. This is one of the source of income generation. As per NRB approximately 25% of such revaluation gain is transferred to exchange fluctuation fund through P/L appropriation account.

Table: 4.6

FOREX exchange income/ exchange fluctuation gain/loss (Rs. In millions)

particular	066/67		065/66		064/65		063/064		062/063	
	%	**Rs.**	**%**	**Rs.**	**%**	**Rs.**	**%**	**Rs.**	**%**	**Rs.**
Change exchange rate	-5.57	-10.05	3.58	8.95	2.71	5.21	-3.20	-4.86	11.92	23.62
Foreign exchange rate	105.5	190.32	96.42	241.03	97.29	187.39	103.20	156.5	88.08	174.51
Total		**180.27**		**249.98**		**192.6**		**151.64**		**198.13**

Source: Annual Reports of Himalayan Bank Limited

From above table it shows that forex gain was in fluctuating trend. In FY 062/63, it was Rs.198.13 and in the FY 063/64 it was decrease to Rs151.64. In the FY 064/65 it Was increase Rs192.6 and in the FY 065/66 it was increase Rs249.98 and in the FY 066/67 it was decrease Rs.180.27.

It shows that both exchange rate and currency transaction are in fluctuating trend. on exchange rate is 11.92%,-3.20%,2.71%,3.58% and -5.57% whereas in foreign currency exchange 88.08%,103.20%,97.29%,96.42%, and 105.5% in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively. Due to political uncertainties in the country it fluctuates each year which is not good sign for banks and another reason behind is global economic crisis that cut off remittances and going abroad. Hence that decrease the exchange rate.

4.8   Loan and Bills Purchase

Bank's main function is to invest borrowings in various sectors. Hence the Bank's income comes from interest on income by providing loans to customers. It is risky but efficient management required reducing risk. Loan can be of two types. One is performing or active loan and other is non-performing or passive loan. To achieve net loan, here loan loss provision, provision up to previous year and current year change need to be adjusted. Hence Table 4.7 shows the classification of loan, advance bills purchase and provisioning. According to data, the net loan is in increasing trend of Rs.14642.56, Rs 16897.99, Rs 19497.52,24793.16,and Rs 27980.63 in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively.

Table: 4.7

Classification of loans advance and bills purchase and provisioning

particular	066/67	065/66	064/65	063/064	062/063
Performing/ active loan	28098.92	24968.21	19702.38	17152.11	14721.22
non- performing /passive loan	1024.83	551.31	477.23	641.62	1040.76
Total loan(1+2)	29123.75	25519.52	20179.61	17793.73	15761.98
Total provisioning	1143.13	726.36	682.10	795.73	1119.42
Total previous year provision	726.36	682.10	795.73	1119.42	1026.65
Adjustment this year(b-c)	416.76	44.27	-113.63	-323.69	92.77
Net loan(a-b)	27980.63	24793.16	19497.52	16897.99	14642.56

Source: Annual Reports of Himalayan Bank Limited

The above table 4.7 shows the classification of loans, advance and bills and provisions. Loans, advances, bill purchase, overdrafts include direct finance provided to customers. Most of the interest incomes come from providing loans to investors; it is riskier but profitable and effective. Even of political uncertainties in country the loan providing is in increasing trend that shows its interest income increasing each

year. The table shows Net loan provided is Rs.14642.56 in the FY 062/63, Rs.16897.99 in the FY 063/64. Similarly, in the FY 064/65 the total net loan is Rs.19479.52 and in the FY 065/66 the net loan is Rs.24793.16. Finally in the FY 066/67 total net loan is Rs.27980.63.

In the FY 062/63 the total amount is Rs.14642.56 after increasing by 15.40% reached to Rs16897.99 in the FY 063/64. similarly in the FY 064/65 it increased by 15.38% and reached to Rs.19479.52 than in the FY 065/66, it increased by 27.16% whereas in 066/67 the net loan increased by 12.85%. It is fluctuating trend every year. It increase its net loan in 064 / 65 as political uncertainties has been settled and increment in abroad studies and real estate has been opened. This increase the new opportunity to commercial banks. Even of risk in providing loan to customers, it is profitable ,hence Himalayan provide loans to them.

4.9   Investment of Himalayan Bank Limited

As study is based on the CVP analysis of Himalayan bank Ltd, it basically emphasis on the tools used for analyzing profit of bank during a five years with comprising to other banks. Bank's main function is to collect deposit from client a borrow loan from other bank, Govt and NRB .This collected money is reinvested as a loan to client and invested at Treasury bill, Devt. Bond, debentures of financial institutions etc. Bank creates profit from difference of interest rate between borrowing money and lending money. Hence investment function is important to earn profit, if bank invested huge amount at wrong place due to miss calculation, it is reason of loss.

Himalayan Bank Ltd has invested money according to investment portfolio at different sector like Govt, Treasury bill, debenture, share, bond etc which helps to decrease the risk of investment.

<div align="center">

Table: 4.8

Investment pattern of HBL (Rs. In millions)

</div>

particular	066/67		065/66		064/65		063/064		062/063	
	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.
Nepal Govt. Treasury bills	40.91	3455.03	44.86	3907.34	53.72	7166.34	51.42	6079.38	41.92	4565.3
Nepal Govt. Saving Bonds	11.96	1010.34	3.50	304.96	0.00	0	0.00	0	0.00	0
Nepal Govt. Other Securities	0.00	0	0.00	0	0.00	0	0.00	0	0.11	12.34
NRB Bonds	0.00	0	0.00	0	2.29	305.13	3.18	375.5	5.20	566.66
Foreign Securities	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
Local Licensed Institutions	2.34	197.31	0.00	0	0.00	0	0.00	0	0.00	0
Foreign Banks	43.85	3703.35	50.56	4404.51	43.32	5778.95	44.78	5294.69	52.40	5706.15
Organized Institution's Shares	0.93	78.88	1.08	93.88	0.67	89.56	0.62	73.42	36.65	3990.88
Total Investment		**8444.91**		**8710.7**		**13340.18**		**11822.98**		**10890.37**
Provision		0		0		0		0		-1.34
Net Investment		**8444.91**		**8710.7**		**13340.18**		**11822.98**		**10889.03**

Source: Annual Reports of Himalayan Bank Limited

The above table 4.8 shows the investment trend of Himalayan bank Ltd. from FY 2062/63 to 2066/67. It shows in which sectors Himalayan bank Ltd has invested. As investment are valued at lower of cost or market value in case of possible losses provisions are made. It shows that the investment made on Govt. treasury bills are in fluctuating condition. In FY 064/65 the highest investment done of Rs13340.18 whereas the lowest investment is Rs.8444.19 in 066/67. At other securities in FY

064/65 the highest investment of Rs.7166.34 and the lowest invest of Rs.3455.03 in 066/67.

Investment in Government Treasury bills, Nepal Govt. Saving Bonds is only in 065/66 and 066/67 foreign banks, organized shares debentures are in decreasing trend each year. Investments in Govt. Debentures are less risky so Himalayan Bank also invested huge amount on such items Himalayan bank invested its capital in other investments like local banks, mutual fund, swift but on other hand it didn"t decline its investments on Nepal Govt. other securities as other banks did.

The total investment in FY 062/63 is Rs.10890.37 and Rs.11822.98 in FY 063/64. Similarly, in the FY 064/65 total investment is Rs.13340.18 and in the FY 065/66 is Rs.8710.7. And finally in the FY 066/67 total investment is Rs.9844.91. Himalayan bank investment is the highest in FY 064/65 during five years of periods.

Table: 4.9

Income statement of HBL (Rs. In millions)

S.N	particular	066/67	065/66	064/65	063/064	062/063
1	Interest income	3148.61	2342.20	1963.65	1775.58	1626.47
2	Commission and discount	270.26	284.30	202.89	193.22	165.45
A	**Total operating income**	**3418.87**	**2626.50**	**2166.54**	**1968.80**	**1791.92**
3	**Less: variable cost**					
	Interest expenses	1553.53	934.78	823.74	767.41	648.84
	Variable Adm. expenses	171.10	160.20	105.10	95.15	80.62
B	**Total variable cost**	**1724.63**	**1094.98**	**928.84**	**862.56**	**729.46**
C	**Cm (A-B)**	**1694.24**	**1531.52**	**1237.70**	**1106.24**	**1062.46**
4	**Less: fixed cost**					
	Staff expenses	414.98	360.98	307.53	290.92	234.59
	Fixed Adm. exp	266.90	238.11	223.91	227.72	249.07

D	Total fixed cost	681.88	599.09	531.44	518.64	483.66
E	Operating profit (C-D)	1013.36	932.43	706.26	587.60	578.80
5	Add: sundry income	112.35	46.34	62.10	40.33	52.32
	Non operating income	12.38	3.81	9.70	3.49	1.89
	FOREX	180.28	249.98	192.60	151.64	198.13
	Exp written off loan	265.54	149.89	184.11	412.65	56.56
F	Total sundry income	570.55	450.02	448.51	608.11	308.90
G	NIBP(E+F)	1583.91	1382.45	1154.77	1195.71	887.70
6	Less: provision					
	Provision for loss	692.64	199.21	58.43	90.69	145.15
	Provision for staff bonus	111.57	106.66	94.88	71.74	67.24
	Provision for income tax	246.07	313.77	312.97	225.58	214.94
H	Total provision	1049.28	620.64	466.28	387.98	427.33
I	(G-H)	534.63	762.81	688.49	807.73	460.37
	Loss from extra activity	25.86	9.97	52.61	315.89	2.9
	Net profit	508.77	752.84	635.88	491.84	457.47

Source: Annual Reports of Himalayan Bank Limited

4.10   Coefficient of Correlation

This analysis interprets and identifies the relationship between two or more variables. In the case of highly correlated, the effects on non variable may have effect on other correlated variable. Under this topic, this study tries to find out relationship between the following variables.

- Coefficient of Correlation between Total Deposit & Net Profit

- Coefficient of Correlation between Investment & Net Profit

The above analysis tools analyze the relationship between the relevant variables and help the bank to make sound policies regarding deposits, investment and profit maximization. The following formula is used to find out:

$$= \frac{N \sum XY - \sum X \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

Where,

r = The Coefficient of Correlation

XY = Total Population of items in two Series

X = Total of X Series

Y = Total of Y Series

X2 = Total of the Square of item in X Series

Y2 = Total of the Square of item in Y Series

N = Number of items period

- When r = 1, there is positively perfect correlation between the two variables.
- When r = - 1, there is negative perfect correlation between the two variables.
- When r = 0, the variables are uncorrelated.
- Nearer the value of r to +1 closer will be the relationship between two variables and nearer the value of r to 0, lesser will be the relationship

4.11   Probable Error of Correlation Coefficient

Probable error of correlation coefficient is an old for testing the reliability of an observed correlation coefficient. The probable error of correlation coefficient is shortly denoted by PE (r). If „r‟ is the correlation coefficient calculated from r pairs of sample observations then the standard error (S. E.) of this correlation coefficient is given by

$$P.E\ (r) = \frac{1 - r^2}{\sqrt{N}}$$

Then the probable error of r is P.E. (r) = 0.6745 × S. E. (r)

It is used in insignificant so there is no evidence of correlation

- If r < P. E., it is insignificant there is no evidence of correlation
- If r > P.E., it is significant

Table: 4.10

Deposit and net profit (Rs. In millions)

year	X	Y	XY	X²	Y²
2066/067	3761	509	1914349	14145121	259081
2065/066	3468	753	2611404	12027024	567009
2064/065	3184	636	2025024	10137856	404496
2063/064	3004	492	1477968	9024016	242064
2062/063	2649	457	1210593	7017201	208849
N=5	∑X =16066	∑Y=2847	∑XY=9,239,338	∑X²= 52351218	∑Y= 1,681,499

Source: Annual Reports of Himalayan Bank Limited

We have

$\sum X = 16066$

$\sum Y = 2847$

$\sum XY = 9,239,338$

$\sum X^2 = 52351218$

$\sum Y^2 = 1,681,499$

N=5

By using formula,

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2}\ \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

$$r = \frac{5 \times 9239338 - 16066 \times 2847}{\sqrt{5 \times 52351218 - (16066)^2}\ \sqrt{5 \times 1681499 - (2847)^2}}$$

$$r = \frac{46196690 - 45739902}{\sqrt{261756090 - 258116356}\ \sqrt{8407495 - 8105409}}$$

$$r = \frac{456788}{1907.81 \times 549.62}$$

$$r = \frac{456788}{1048570.53}$$

r= 0.4356

The positive correlation

Calculation of P.E.

$$P.E\ (r) = \frac{1-r^2}{\sqrt{N}}$$

$$=\frac{1-0.4356}{\sqrt{5}}$$

$$=0.2519$$

Then significance of relationship

$$= 6 \times PE\ (r)$$

$$= 6 \times 0.2519$$

$$= 1.51$$

The above Calculation shows that the correlation coefficient (r) between total deposit and total Net Profit of HBL is 0.4356 and probable error time 6 is found to be 0.2519 since r >6 PE, r positive and so this implies that there is very strong positive and significance correlation between total deposits and profit during the study period.

Table: 4.11

Investment and net profit (Rs. In millions)

year	X	Y	XY	X^2	Y^2
2066/067	844	509	429,596	712336	259081
2065/066	871	753	655,863	758641	567009
2064/065	1334	636	848,424	1779556	404496
2063/064	1182	492	581,544	1397124	242064
2062/063	1088	457	497,216	1183744	208849
N= 5	∑X= 5319	∑Y= 2847	∑XY= 3,012,643	∑X²= 5,831,401	∑Y²= 1,681,499

Source: Annual Reports of Himalayan Bank Limited

We have

$$\sum X = 5319$$
$$\sum Y = 2847$$
$$\sum XY = 3012643$$
$$\sum X^2 = 5831401$$
$$\sum Y^2 = 1681499$$
$$N = 5$$

By using formula,

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2}\ \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

$$r = \frac{5 \times 3012643 - 5319 \times 2847}{\sqrt{5 \times 5831401 - (5319)^2}\ \sqrt{5 \times 1681499 - (2847)^2}}$$

$$r = \frac{-79978}{\sqrt{29157005-28291761}\,\sqrt{8407495-8105409}}$$

$$r = \frac{-79978}{930.18 \times 549.62}$$

$$r = \frac{-79978}{50806.43}$$

$$r = -0.1574$$

r = -0.1574, the perfectly negative correlation.

Calculation of P.E.

$$\text{P.E (r)} = \frac{1-r^2}{\sqrt{N}}$$

$$= \frac{1-(-0.1574)^2}{\sqrt{5}}$$

$$= 0.4576$$

Then, significance of relationship

$$= 6 \times \text{P.E (-r)}$$

$$= 6 \times 0.4576$$

$$= 2.75$$

The above Calculation shows that the negative correlation coefficient (r) between total Investment and total Net Profit of HBL is -0.1574 and probable error time 6 is found to be 0.4576 since r >6 PE, r positive and so this implies that there is negative correlation between total deposits and profit during the study period.

4.12 Contribution Margin

The contribution margin approach to CVP analysis allows the preparation of Performa statement from the available information. BEP & other required CVP relationships can be explained through a CN statement. It explained that all fixed costs are period costs that should be deducted from the CN of the same period. Only the VC varies proportionately with the level of output or sales. CM is regarded as the excess of sales price of a unit of output over its VC. It also can be defined as the excess of sales amount over VC. It can be obtained by following method

SR = Income Interest + com. & dis.

CM = Sales Revenue – VC

CMPU = SPPU – VCP

Table: 4.12

Contribution margin (Rs. In millions)

Year	Sales	VC	Cm	% of sales
2066/067	3419	1725	1694	49.55
2065/066	2627	1095	1532	58.32
2064/065	2167	929	1238	57.13
2063/064	1969	729	1240	62.98
2062/063	1792	863	929	51.84

Source: Annual Reports of Himalayan Bank Limited

The above table shows the CM of 5 years period of Himalayan bank Ltd. It shows that the CM of the year 062/63 was 929, in FY 063/64 was 1240, in FY 064/65 was 1238, in FY 065/66 was 1532 & in FY 066/67 was 1694 According to the study, the trend was in increasing except in FY 063/64 that year was least among others. But the financial positions become improve each year.

From above, the percentage of sales shows 51.84% in 062/63, 62.98% in 063/64, 57.13% in 064/65, 58.32% in 065/66 and 49.55% in 066/67. As VC decrease % of sales increases and as VC increase the % of sales decrease.

4.13   PV Ratio

P/V Ratio is also known as CM Ratio. The full form is Profit Volume Ratio. It is important tool in studying profitability index. It can be obtained as follows.

P/V Ratio = CM/Sales

i.e. PV Ratio = 1694/0.4955

Table: 4.13

CM Ratio/PV Ratio (Rs. In millions)

Year	CM	sales	P/V ratio
2066/067	1694	3419	49.55
2065/066	1532	2627	58.32
2064/065	1238	2167	57.13
2063/064	1240	1969	62.98
2062/063	929	1792	51.84

Source: Annual Reports of Himalayan Bank Limited

The above table shows that the P/V ratio of the Himalayan Bank Ltd over the study period which was increasing trend. It is well for the bank. the highest P/V ratio is 62.98 in FY 063/64 which shows that financial position is very good.

4.14 Break Even Point (BEP)

BEP is the powerful tool to analyze the profit making process. It is the specific way of presenting & studying the interrelationship between the costs. It is the most popular technique that indicates the level of sales in which cost & revenue are in equilibrium position. i.e.

BEP = No Profit No Loss. BEP can be computed as

BEP (U) = TFC/ SPPU- VCPU

BEP (Rs) = TFC/PV Ratio   or TFC/1- VC/SR

Table: 4.14

BEP Sales under Including Sundry Income (Rs. In millions)

Fiscal Year	TFC (1)	TSI (2)	Remaining Amount (3=1-2)	P/V Ratio(4=CM/Sales)	BEP Sales(5=3/4)
2066/067	682	571	111	49.55	225
2065/066	599	450	149	58.32	256
2064/065	531	449	82	57.13	145
2063/064	519	608	-89	62.98	-141
2062/063	484	309	175	51.84	339

Source: Annual Reports of Himalayan Bank Limited

Table 4.15

BEP Sales under Excluding Sundry Income (Rs. In millions)

Fiscal Year	TFC (1)	PV Ratio (2)	BEP (1/2)
2066/067	682	0.4955	1376
2065/066	599	0.5832	1027
2064/065	531	0.5713	929
2063/064	519	0.6298	824
2062/063	484	0.5184	934

Source: Annual Reports of Himalayan Bank Limited

Hence, above table 4.14 that include sundry income & table 4.15 that exclude sundry income have been shown to obtain BEP. The point at which SR and TC line intersect is BEP sales.

4.15   Margin of Safety

Margin of Safety can be defined as the difference between actual sales and BEP sales. It measures the risk of the bank. larger the MOS include the bank is safe from loss. MOS can be calculated by using the following formula:

$$MOS = Actual\ Sales - BE\ Sales$$

$$Or,\ \frac{Profit}{P.V\ Ratio} \times 100$$

Table 4.16

Margin of Safety Under Assumption 1 (Rs. In millions)

Fiscal Year	Actual Sales (1)	BEP Sales(2)	MOS (3=1-2)	% of Sales (4=3/1)
2066/067	3419	225	3194	93.42
2065/066	2627	256	2371	90.26
2064/065	2167	145	2022	93.31
2063/064	1969	-141	2110	107.16
2062/063	1792	339	1453	81.08

Source: Annual Reports of Himalayan Bank Limited

The above table 4.16 shows the highest MOS in FY 066/67 of Rs. 3194 & the lowest MOS in FY 062/63 of Rs.1453. It is in increasing trend. From above table , the percentage of sales shows 81.08%,107.16%,93.31%,90.26% and 93.42% in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively.

Table: 4.17

Margin of Safety Under Assumption 2 (Rs. In millions)

Fiscal year	Actual sales (1)	BEP sales(2)	MOS(3=1-2)	%of sales(4=3/1)
2066/067	3419	1376	2043	60
2065/066	2627	1027	1600	61
2064/065	2167	929	1238	57
2063/064	1969	824	1145	58
2062/063	1792	934	858	48

Source: Annual Reports of Himalayan Bank Limited

The above table 4.17 shows the highest MOS in FY 066/67 of Rs.2043 andthe lowest MOS in FY 2062/63 of Rs.858. Himalayan Bank Ltd is in increasing trend of MOS so the sales make the high MOS already. From above, the percentage of sales shows 48%, 58%,57%,61% and60% in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively.

4.16   Statement of Overall CVP Analysis

Table: 4.18

Overall Statement of CVP Analysis Under Two Assumptions (Rs. In millions)

For the Year 2062/063

particular	Assumption 1	Assumption 2
Sales Revenue	1791.92	1791.92
Less: VC	729.46	729.46
CM	1062.46	1062.46
Less: FC	483.66	483.66
Op. Inc	578.80	578.80
Add: Sundry Income	308.90	308.90
Income before Provision	887.7	887.7
Less: Provision	427.33	427.33
NP before loss from extra activity	460.37	460.37
Loss from extra activity	2.9	2.9
NPAT	457.47	457.47
P/V Ratio	0.5184	0.5184
BEP	339	934
MOS	1453	858

Source: Annual Reports of Himalayan Bank Limited

BEP sales for FY 2062/63 considering two assumption are Rs.339 and Rs.934 which is lower than actual sales & MOS are Rs1453 & Rs 858. MOS is high hence it's the well position of bank.

Table: 4.19

Overall Statement of CVP Analysis under two Assumptions (Rs. In millions)

For the Year 2063/064

particular	Assumption 1	Assumption 2
Sales Revenue	1968.80	1968.80
Less: VC	862.56	862.56
CM	1106.24	1106.24
Less: FC	518.64	518.64
Op. Inc	587.6	587.6
Add: Sundry Income	608.11	608.11
Income before Provision	1195.71	1195.71
Less: Provision	387.98	387.98
NP before loss from extra activity	807.73	807.73
Loss from extra activity	315.89	315.89
NPAT	491.82	491.82
P/V Ratio	0.6298	0.6298
BEP	-141	824
MOS	2110	1145

Source: Annual Reports of Himalayan Bank Limited

BEP sales for FY 2063/64 considering two assumption are Rs.-141 and Rs.824 which is very lower than actual sales & MOS are Rs2110 & Rs1145 MOS is high hence it's the well position of bank.

Table: 4.20

Overall Statement of CVP Analysis under two Assumptions (Rs. In millions)

For the Year 2064/065

particular	Assumption 1	Assumption 2
Sales Revenue	2166.54	2166.54
Less: VC	928.84	928.84
CM	1237.7	1237.7
Less: FC	531.44	531.44
Op. Inc	706.26	706.26
Add: Sundry Income	448.51	448.51
Income before Provision	1154.77	1154.77
Less: Provision	466.28	466.28
NP before loss from extra activity	688.49	688.49
Loss from extra activity	52.61	52.61
NPAT	635.88	635.88
P/V Ratio	0.5713	0.5713
BEP	145	2022
MOS	929	1238

Source: Annual Reports of Himalayan Bank Limited

BEP sales for FY 2064/65 considering two assumption are Rs.145 and Rs.2022 which is very lower than actual sales & MOS are Rs 929 & Rs 1238. MOS is high hence it's the well position of bank.

Table: 4.21

Overall Statement of CVP Analysis under two Assumptions (Rs. In millions)

For the Year 2065/66

particular	Assumption 1	Assumption 2
Sales Revenue	2626.50	2626.50
Less: VC	1094.98	1094.98
CM	1531.52	1531.52
Less: FC	599.09	599.09
Op. Inc	932.43	932.43
Add: Sundry Income	450.02	450.02
Income before Provision	1382.45	1382.45
Less: Provision	620.64	620.64
NP before loss from extra activity	762.81	762.81
Loss from extra activity	9.97	9.97
NPAT	552.84	552.84
P/V Ratio	0.5832	0.5832
BEP	256	2371
MOS	1027	1600

Source: Annual Reports of Himalayan Bank Limited

BEP sales for FY 2065/66 considering two assumption are Rs.256 and Rs2371 which is very lower than actual sales & MOS are Rs 1027 & Rs 1600. MOS is high hence it's the well position of bank.

Table: 4.22

Overall Statement of CVP Analysis under two Assumptions (Rs. In millions)

For the year 2066/67

particular	Assumption 1	Assumption 2
Sales Revenue	3418.87	3418.87
Less: VC	1724.63	1724.63
CM	1694.24	1694.24
Less: FC	681.88	681.88
Op. Inc	1013.36	1013.36
Add: Sundry Income	570.55	570.55
Income before Provision	1583.91	1583.91
Less: Provision	1049.28	1049.28
NP before loss from extra activity	534.63	534.63
Loss from extra activity	25.86	25.86
NPAT	508.77	508.77
P/V Ratio	0.4955	0.4955
BEP	225	3194
MOS	1376	2040

Source: Annual Reports of Himalayan Bank Limited

BEP sales for FY 2066/67 considering two assumption are Rs.225 and Rs.3194 which is very lower than actual sales & MOS are Rs1883.13 & Rs1456.60. MOS is high hence it's the well position of bank.

4.17 Sensitivity of CVP Analysis

The two terms cost and expenses are often used in the same sense. For financial accounting purposes, cost id defined as an expenditure that is entirely recorded as an asset and becomes an expense when it is used up in the future. An expense is defined as an expenditure that is currently consumed or a cost that has been used up cutting expenses without considering the effects on benefit is in fact a shortsighted decision. Although, it temporarily reduces expenses, in the long run it costs higher to the firm. Hence all costs do not show the same behavior through out the operation. There exist a relationship between costs and the volume of activity and its impact on profit. The sensitivity of CVP analysis can be studied as if changes occur in one term i.e. VC or FC it creates positive or negative impact on profit on sales, on CM on SPPU etc. so it is necessary to analyze controllable and non-controllable costs in CVP analysis that helps company to maintain its original BEP and profit in the change situation. A small change can occurred in one factor out of CVP variables i.e. sales value, VC, FC remaining other two factors changed. An analysis of CVP relationship can determine the effect of such changes on profit and BEP.

4.18 Change effects of sales value

P/V ratio and BE sales effects by the change in sales value. Increase in the sales value increased the PV ratio and decreased the BEP sales and vice-versa. Sales value has positive correlation with profit and negative correlation with BEP sales. It is assumed that sales value increase and decrease by 10% and other things remain constant. Its result like below for FY 066/67 using only assumption 2 i.e. excluding the sundry change

Income Statement with change of 10% Sales Value (Rs. In millions)

Particulars	Sales	10% increase	10%decrease
Sales revenue	3418.87	3760.76	3076.98
Less: VC	1724.63	1724.63	1724.63
Cm	1694.24	2036.13	1352.35
Less: FC	681.88	681.88	681.88
Operating income	1013.36	1354.25	670.47
Add: sundry income	570.55	570.55	570.55
Income before provision	1583.91	1924.8	1241.02
Less: less provision	1049.28	1049.28	1049.28
NP before extra activity	534.63	875.52	191.74
Less: loss from extra activity	25.86	25.86	25.86
NPAT	508.77	849.66	165.88
P/V ratio	0.4955	0.5414	0.4395
BEP	225	1259.48	1551.49

Source: Annual Reports of Himalayan Bank Limited

4.19 Ratio analysis of HBL

The "bottom line" in a company's income statement is its net income or reported profits. This figure is the basis for dividends and it is used to determine bonuses. Financial statements report both on a firm's position at a point in time and on its operations over some past period. However the real value of financial statements lies in the fact that they can be used to help predict the firm's future earnings and dividends. Predicting the future is what financial statement analysis is all about. An analysis of the firm's ratios is generally the first step in a financial analysis. It shows relationship between financial statement accounts. Generally, ratio analysis is helpful in financial forecasting and planning effective control of the business, communicates the strength and financial standing of the firm to the related parties for comparison of a particular firm progress and performance for decision making. There are various ratios helps to measure the profitability effectiveness of banks. They are as follows.

4.19.1 Net Profit Margin Ratio

NPMR shows the ratio between NP and sales of bank. Higher the NPMR indicate the highest overall efficiency of business. It can be obtain from following formula:

$$\text{NPMR} = \frac{NP}{Sales}$$

Table 4.24

Net Profit Margin of the year table (Rs. In millions)

Fiscal year	Sales (1)	NP (2)	NPMR % (2/1)
2066/067	3418.87	508.77	14.88
2065/066	2626.50	752.84	28.66
2064/065	2166.54	635.88	29.35
2063/064	1968.80	491.84	24.98
2062/063	1791.92	457.47	25.53

Source: Annual Reports of Himalayan Bank Limited

From above table, the highest profit earn by Himalayan bank in FY 2065/64 which is Rs.752.84 i.e. 28.66% where as the lowest profit earn in FY 2062/63 i.e. 25.53%

4.19.2 Operating ratio

The ratio between operating cost and sales is known as operating ratio. Operating cost includes administration expenses, interest expenses, personnel expenses, etc. The ratio can be obtained by following formula;

$$\text{Operating Ratio} = \frac{Operating\ Expenses}{Sales}$$

Table: 4.25

Operating ratio (Rs. In millions)

Fiscal year	Sales	Interest expenses	Personal expenses	Administrative Expenses	Total	Ratio %
2066/067	3418.87	1553.53	414.98	438	2,406.51	70.39
2065/066	2626.50	934.78	360.98	398.11	1,693.87	64.49
2064/065	2166.54	823.74	307.53	329.01	1,460.28	67.40
2063/064	1968.80	767.41	290.92	322.87	1,381.20	70.15
2062/063	1791.92	648.84	234.59	329.69	1,213.12	67.70

Source: Annual Reports of Himalayan Bank Limited

From the above table, HBL operating ratio is in fluctuating trend but in increasing year – by- year. The highest operating ratio is 70.39% in FY 066/67 & the lowest ratio is 64.49% in FY 065/66. As operating ratio is increasing profit ratio become decreasing trend.

4.19.3 Interest Income to Loan Ratio

Ratio between interest income & loan is known as interest income to loan ratio. Higher the interest income to loan ratio measure the better financial position of the bank.

$$\text{Interest Income to Loan Ratio} = \frac{Interest\ Income}{Loan}$$

Table: 4.26

Interest Income to Loan Ratio (Rs. In millions)

Fiscal year	Loan	Interest income	Ratio %
2066/067	29123.75	3148.61	10.81
2065/066	25519.52	2342.2	9.18
2064/065	20179.61	1963.65	9.73
2063/064	17793.73	1775.58	9.98
2062/063	15761.98	1626.47	10.32

Source: Annual Reports of Himalayan Bank Limited

From above table, HBL's interest income to loan ratio is slightly in fluctuate trend. The highest ratio is 10.%81 in FY 066/67 & the lowest ratio is 9.18% in FY 065/66.

4.19.4 Passive Loan to Total Loan Ratio

These loans which may not be able to recover loan from customer. It is hard to collect so, such loan should be reduced. Ratio between passive loan and total loan is known as passive loan to total loan ratio.

$$\text{Passive Loan to Total Loan Ratio} = \frac{Passive\ Loan}{Total\ Loan}$$

Table: 4.27

Passive Loan to Total Loan Ratio (Rs. In millions)

Fiscal year	Passive Loan	Total loan	Ratio %
2066/067	1024.83	29123.75	3.52
2065/066	551.31	25519.52	2.16
2064/065	477.23	20179.61	2.36
2063/064	641.621	17793.73	3.61
2062/063	1040.76	15761.98	6.60%

Source: Annual Reports of Himalayan Bank Limited

From above table the highest passive loan ratio is 3.61% in FY 2063/64 and lowest is 2.16% in FY 065/66. It is in declining trend.

4.19.5 Net Profit to Total Assets Ratio

NP to TA ratio shows the ratio between NP and TA of bank. TA includes fixed assets, cash balance, loan and bill purchase, etc. TA can be obtaining from balance sheet of the company. Higher NP to TA ratio shows the better performance of the bank. It can be obtain from the following formula.

$$\text{NP to TA Ratio} = \frac{NP}{TA}$$

Table: 4.28

NP To Total Assets Ratio (Rs. In millions)

Fiscal year	Total assets	Net profit	NP to TA %
2066/067	42717.12	508.77	1.19
2065/066	39330.13	752.84	1.91
2064/065	36175.53	635.88	1.76
2063/064	33519.14	491.84	1.47
2062/063	29460.39	457.47	1.55

Source: Annual Reports of Himalayan Bank Limited

From above table 4.29, the highest NP to TA in percent is 1.91 in FY 2065/66 and the lowest is 1. in 19 in FY 2066 / 75.

4.19.6 Net Profit to Total Income Ratio

NP to total income ratio shows the ratio between NP and total income of bank. Total income includes interest income, commission and discount, sundry income, non operating income, etc. As higher NP to T income ratio shows the better performance of the bank. It can be obtain from the following formula.

$$\text{NP to TI Ratio} = \frac{NP}{Total\ Income}$$

Table: 4.29

NP To Total Income Ratio (Rs. In millions)

Fiscal year	Total income	Net profit	NP to TI %
2066/067	3418.87	508.77	14.88
2065/066	2626.50	752.84	28.66
2064/065	2166.54	635.88	29.35
2063/064	1968.80	491.84	24.98
2062/063	1791.92	457.47	25.53

Source: Annual Reports of Himalayan Bank Limited

From above table 4.30, the highest NP to TI in percent is 29.35 in FY 2064/65 and the lowest is 14.88 in FY 2066 / 67. It is in fluctuating trend.

4.20 Major findings

On the basic of preceding chapter data presentation and analysis some major findings can be drawn. The major findings of the thesis study are summarized below:

- As income from interest is the main source of income of bank. It has to be very aware while doing investment. Such income is classified under various heads or source such as loan, overdraft, agency balance, investment. In the five years data analysis find that the total income from interest is Rs. 1626.50 in FY 062/63, Rs.1775.63 in FY 063/64, Rs.1963.68 in FY 064/65, Rs.2342.21 in FY 065/66 and Rs. 3148.61 in FY 066/67. It means the income from interest earn is in increasing trend.

- Commission and discount income is other income source of bank. Whatever charge or commission has to take for service rendered, customer has to debit at

the time of transaction. Commission is received on LC, remittance; annual fees on cards, etc. in the five years of period commission and discount amount received are Rs 270.26, Rs 284.31, Rs 202.89, Rs193.23, & Rs 165.46. in fiscal year 2066/2067 the commission amount shows that commission amount receive is increasing trend.

- Bank charges various service charges for providing services. It is also another source of income such service can be renewable charges, vault and safe charge, stop payments, Remittance etc. These amounts are little but help in bank's income. sundry income in FY 062/63 is Rs52.32 and FY 063/64 it is decrease in Rs 40.34 then next year 064/65 it increase Rs62.11 and again it decrease in 065/66is Rs 46.34 then 066/67 it is increase Rs112.34 it is both increase and decrease trend During the five years of period

- It is regarded as Revaluation Gain. Income realized from the difference between buying and selling rates of foreign currency is accounted under trading gain. This is one of the source of income generation. As per NRB approximately 25% of such revaluation gain is transferred to exchange fluctuation fund through P/L appropriation account. forex gain was in fluctuating trend. In FY 062/63, it was Rs.198.13 and in the FY 063/64 it was decrease to Rs151.64. In the FY 064/65 it Was increase Rs192.6 and in the FY 065/66 it was increase Rs249.98 and in the FY 066/67 it was decrease Rs.180.27.

- It shows that both exchange rate and currency transaction are in fluctuating trend. on exchange rate is 11.92%,-3.20%,2.71%,3.58% and -5.57% whereas in foreign currency exchange 88.08%,103.20%,97.29%,96.42%, and 105.5% in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively

- Bank not only makes income on various heads but also have to expense on it. Such expenses can be personnel expenses, office expenses, interest etc. As bank take interest on loan and overdrafts in same way it has to pay interest on deposits. Such interest can be different according to nature of deposits. It can be differentiate by. , the total interest expense was also in increasing trend. In the FY 062/63 it was Rs.648.83. In the FY 063/64 it was Rs767.41 in FY 064/65Rs 823.74 in FY 065/66 it was Rs 934.78 and 066/67 it was increase

Rs1553.53. interest expenses play vital role in profit hence it need proper planning to make profit each year.

- Personnel expenses are that for employees of the office. Without employees work can't be done. These expenses are regarded as fixed cost such as salary, allowance, and uniform, medical and insurance etc. personnel expenses was in increasing trend every year. It shows Rs234.81 in FY 062/63. Similarly, in the FY 063/64 it is Rs.273.47 and in the FY 064/65 it is Rs.307.54. In the FY 065/66, it is Rs360.98 and Rs.414.99 in the FY 066/67.

- Bank's main function is to invest borrowings in various sectors. Hence the Bank's income comes from interest on income by providing loans to customers. It is risky but efficient management required reducing risk. Loan can be of two types. One is performing or active loan and other is non-performing or passive loan. To achieve net loan, here loan loss provision, provision up to previous year and current year change need to be adjusted. classification of loan, advance bills purchase and provisioning. According to data, the net loan is in increasing trend of Rs.14642.56, Rs 16897.99, Rs 19497.52,24793.16,and Rs 27980.63 in FY 062/63, FY 063/64, FY 064/65, FY 065/66 & FY 066/67 respectively.

- Investment is the main function of the bank. the investment trend of Himalayan bank Ltd. from FY 2062/63 to 2066/67. It shows in which sectors Himalayan bank Ltd has invested. As investment are valued at lower of cost or market value in case of possible losses provisions are made. It shows that the investment made on Govt. treasury bills are in fluctuating condition. In FY 064/65 the highest investment done of Rs13340.18 whereas the lowest investment is Rs.8444.19 in 066/67. At other securities in FY 064/65 the highest investment of Rs.7166.34 and the lowest invest of Rs.3455.03 in 066/67. The total investment in FY 062/63 is Rs.10890.37 and Rs.11822.98 in FY 063/64. Similarly, in the FY 064/65 total investment is Rs.13340.18 and in the FY 065/66 is Rs.8710.7. And finally in the FY 066/67 total investment is Rs.9844.91. Himalayan bank investment is the highest in FY 064/65 during five years of periods.

- BEP is the powerful tool to analyze the profit making process. It is the specific way of presenting & studying the interrelationship between the costs. It is the

most popular technique that indicates the level of sales in which cost & revenue are in equilibrium position. i.e.

- Margin of Safety can be defined as the difference between actual sales and BEP sales. It measures the risk of the bank. larger the MOS include the bank is safe from loss.

CHAPTER- FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This is the final chapter of this thesis, which has been divided into summary, conclusion and recommendations. In this chapter, we examine the processed data to come into new concluding upon the CVP analysis of Himalayan Bank Ltd. It also aims to give forth some suggestion that must be helpful for further enhancement of the lending operation and practices of the Himalayan Bank Limited.

Every business organization set up with certain objective of providing services to people and earns profit as income whether that is productive or non- productive. But it is not a joke to fulfill that objective easily in this competitive world of business. As globalization take place it became tougher to sustain in market. So, they not only just try and see the result also do hard work and provide many facilities to secure from loss. Hence they need to think about future course of action in such a way so hat they can accomplish their business objectives. In order to make profit it is necessary to check business capacity, activities, utilization of resources and if there is any part to reduce cast because little reduction in expenses can make profit in income. Hence, profit planning tools helps to assist in analyzing the situation. Therefore, proper planning & controlling is important to survive & lead the company successfully. Organization cannot achieve its goal without proper planning and implementation. People invest huge amount of money in the business to earn profit. But future is uncertain that creates risk. Therefore, it is necessary to make good management to reduce such risk. For this various management tools can be utilized. CVP analysis is one of the tool to analyze the technique for examining the relationship between change in activity, change in total sales revenue, expenses & net profit which helps to manage future cost & profit. CVP analysis is the powerful & helpful tool for managerial decision making, cost control & profit planning. Profit is primary a measuring rod of success of business enterprises. It is a basic test of the performance of any business concern. CVP analysis is one of the tool uses in organization for

analyzing profit. CVP analyzing is a way of quick answer a number of important questions about profitability of a bank's service. Profitability is a deviation of the term profit, which explains the ability to make a profit. The main objective of this study is to examine the practice of CVP analysis and its effectiveness in commercial bank. Himalayan Bank Ltd represent as one of the commercial bank leading in the country. In this study mostly secondary data have been used & informal conversation for other information. The data are tabulated whenever necessary.

This study covers mainly 5 years of period from FY 2062/63 to 2066/67 & divided into five chapters which consist (1). Introduction (2) Conceptual framework & literature Review (3) Research & Methodology (4) Data Presentation & Analysis (5) Summary, Conclusion & Recommendation.

5.2 Conclusion

On the basis of different analysis the following conclusion has been derived.

- CVP analysis has not practiced yet.
- Costs are not segregated into fixed & variable.
- Income statement has been prepared roughly.
- The overall conclusion can be drawn that the assets management ratio of HBL has been better.
- Mostly in mobilizing its total deposit at loans & advances than on investment on Govt. securities.
- HBL has been successful in mobilizing their total assets on loans and advances for the purpose of income generation.
- HBL is successful to mobilize its total assets on purchase of shares & debentures of other companies to generate incomes
- All the level of management is not involved in profit planning & decision making.
- MOS is very higher than BEP sales. It means well performance of Bank. Himalayan Bank Ltd"s loan, advance & bill purchased are in increasing trend.
- Income from interest is in increasing trend.
- Sundry income is also increasing each year.
- Interest expenses are also increasing each year.

- Net profit increases every year i.e. It is profit making bank.

5.3 Recommendation

Nepal has become the member of WTO. Hence, globalization in market takes place. Competitions become tough for each other various international banks set up their branches that create competitions & need to provide high quality service to people to sustain in the market. Application of CVP analysis with advanced profit planning and control tools can help to achieve bank goal in strong competition. Based on the major findings of the study following recommendations suggest to improve the management of the bank.

- Cost should be segregated into fixed and variable.
- Fixed cost should be reduced.
- All level of management team should be involved in profit plannind and decision making.
- CVP analysis should be practiced.
- BEP analysis should be done while planning.
- Himalayan Bank Ltd should recruit skilled manpower and provide equal opportunity to every people, not based on relationship of staff.
- Himalayan Bank Ltd should invest in research and development to carried new technology and invented new product.
- Himalayan Bank Ltd should reduce its service charge.
- Himalayan Bank Ltd should increases interest rate providing in deposits to lure people.
- Income statement should be prepared in proper manner.
- This study carries a lot of limitation. So, a more comprehensive study need to be carried from the concerned authorities and the further researches to reach a more authentic conclusion depicting the picture of the banks.