CASH FLOW ANALYSIS OF BUTWAL POWER COMPANY LIMITED

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CHAPTER- I

INTRODUCTION

1.1 Introduction

Financial statement analysis is the systematic process of analyzing the financial statements under various bases. It is the act of regrouping and rearranging the figure of financial statements to measure the financial strength and weakness. The main purpose of financial statement analysis is to supply various financial information to different parties: such as shareholder, management, creditors, bankers and lenders, employee and trade union etc.

The major parts of a financial statement

- The income statement
- The statement of retained earnings
- The balance sheet
- The statement of cash flows

The statement which reports cash flow during the specific accounting period classified in to operating activities, investing activities and financing activities is known cash flow statement.

"Cash includes both cash and cash equivalent. Cash equivalent are short term highly liquid investment, such as money market fund, commercial papers, treasury bills and marketable securities" According to Financial Accounting Standards Board, USA(FASB, USA).

"The company should prepare cash flow statement along with profit and loss account and balance sheet at the ending of the financial year." According to Nepal Company Act, 2053 B.S; section 83.

“Cash flow statement should be prepared along with balance sheet with and profit and loss account instead of fund flow statement,” According to International Accounting Standard (IAS).

The main objective of a statement of cash flows is to convey information about the cash receipts and cash payments of a firm during the accounting period. Thought the same information comes through the cash book, already prepared in the course of posting in ledger, the statement of cash flows presents the same information in a different manner so that the decision makers come to know how much cash has increased or decreased in operating, investing, and financing activities.

Cash flow analysis is a method of analyzing the financing, investing, and operating activities of a company. The primary goal of cash flow analysis is to identify, in a timely manner, cash flow problems as well as cash flow opportunities. The primary document used in cash flow analysis is the cash flow statement. Since 1988, the Securities and Exchange Commission (SEC) has required every company that files reports to include a cash flow statement with its quarterly and annual reports. The cash flow statement is useful to managers, lenders, and investors because it translates the earnings reported on the income statement—which are subject to reporting regulations and accounting decisions—into a simple summary of how much cash the company has generated during the period in question. "Cash flow measures real money flowing into, or out of, a company's bank account," Harry Domash notes on his Web site, WinningInvesting.com. "Unlike reported earnings, there is little a company can do to overstate its bank balance"(Encyclopedia of Business, 2nded).

Cash flow management is the process of monitoring, analyzing, and adjusting cash flows. For small businesses, the most important aspect of cash flow management is avoiding extended cash shortages, caused by having too great a gap between cash inflows and outflows. Funds can be of two types they

are either in the form of working capital or in cash. If the fund is considered as working capital then we have to prepare the funds flow statement whereas if the fund is taken as cash then we have to prepare cash flow statement. There are different concepts regarding fund. Some concepts insist that only cash should be considered as fund and another concept states that fund is not only the cash but the financial resources which can be converted into cash can also be included in funds.

"Cash is the life blood of a business enterprise. It is the fuel that keeps a business alive. Without cash no activities can take place. So a business must have an adequate amount of cash to operate. As such of the decision makers must pay close attention to the firm's cash position and events and transaction that affect the cash position of the company is termed as cash flow analysis" (www.cashflow.com).

Cash flow analysis is the study of the cycle of the business cash inflows and outflows, with the purpose of maintaining an adequate cash flow for the business, and to provide the basis for cash flow management. Cash flow analysis involves examining the components of the business that affect cash flow, such as accounts receivable, inventory, accounts payable, and credit terms. By performing a cash flow analysis on these separate components, the company should be able to more easily identify cash flow problems and find ways to improve the cash flow.

A quick and easy way to perform a cash flow analysis is to compare the total unpaid purchases to the total sales due to the end of each month. If the total unpaid purchases are greater than the total sales due to the company would be need to spend more cash than receive in the next month, indicating a potential cash flow problem.

Cash flow is calculated by making certain adjustments to net income by adding or subtracting differences in revenue, expenses and credit transactions resulting from transactions that occur from one period to the next. These adjustments are made because non-cash items are calculated into net income and total assets and liabilities. So, because not all transactions involve actual cash items, many items have to be re-evaluated when calculating cash flow from operations. The other method of cash flow is calculated by different adjustments of operating activities, investing activities and financing activities within different operations.

Cash flows analysis is done through statement of cash flows. A cash flow statement is a statement of company's ability to generate cash from various activities such as operating, investing and financing and their need of cash. It is a statement which shows the inflows and outflows of cash and cash equivalents during the year. A cash flows statement is defined as "a statement of company's ability to generate cash from various activities and their need of cash" (Munakarmi, 2063: 13.9).

The cash flow analysis is an essential ingredient which has its own special technique. Moreover we should analyze cash flow ability of the firm to serve fixed charges. When the company issues the securities in greater amount with short maturity period, its fixed charges will be high. Fixed charges of any firm include principal plus interest payment on debt, lease payment and dividend on preferred stock. The firm should try to cover all fixed charges by analyzing expected future cash flows before assuming any fixed charges. The inability to meet the fixed charges may result in financial insolvency. Therefore the more stable future cash flow means the greater debt capacity of the company. Due to this reason, an analysis of the cash flow ability of the firm it's the best way to analyze its financial risk. As such an enterprise should prepare a cash

flow statement and should present it as an integral part of its financial statement for each periods for which financial statement are presented.

Cash flow is calculated by making certain adjustments to net income by adding or subtracting differences in revenue, expenses and credit transactions (appearing on the balance sheet and income statement) resulting from transactions that occur from one period to the next. These adjustments are made because non-cash items are calculated into net income (income statement) and total assets and liabilities (balance sheet). So, because not all transactions involve actual cash items, many items have to be re-evaluated when calculating cash flow from operations.

1.2 Overview of Butwal Power Company

The history of BPC started in 1963 when Butwal Technical Institute (BIT) was founded to provide industrial training for young Nepalese with assistance from United Mission to Nepal.

Mr. Odd Hoftun, who came to Nepal in 1958 all the way from Norway, is the person behind this concept the development for providing full set of services through this organization in hydro-power field. The Butwal Power Company was established in 1966 when total capacity of the power in the country was only 3.45 MW. BPC with assistance from the United Mission to Ne pal, Tinau project was developed in1967 to light of the town Butwal and to promote industrial development in the area.

BPC is not only designed and constructed but also owns and operates the 12 MW Jhimruk Hydropower plant and the 5.1 MW Andhikhola Hydropower plant. The company supplies power to the national electricity grid and also lights up 22000 local households.

During the project development of Andhi khola and Ghimruk , the Butwal Power Company has participated in the establishment of numerous organizations , including Himal Hydro and General Construction Lt d. in 1978; Nepal Hydro and Electric P. Ltd. in 1982, and Hydro Lab Pvt. Ltd. in 1999. Established an engineering consulting wing BPC Hydro consult within BPC in 1986 to provide services in hydropower, water, irrigation and environment sector.

BPC also established Jhimruk industrial Development centre Pvt. Ltd. in 1998 to mitigate the impact of Jhimruk Hydroelectric project. The aim of establishing all these companies is to provide all necessary services from design and construction to operation of power plants including contribution to community development.

Similarly, BPC together with the Nrweuga n companies Stsrkraft SF, Alstom power and GE energy established Himal power limited in 1993 to develop, build own and operate 60 MW Khimti I Hydropower Project. This is the first significant hydropower project fully commercially financed and has major investment from international investors.

BPC was privatized in 2003. With the privatization, the main shareholders of BPC are private shareholders Nepal as (Shangr i-la Energy limited and inter kraft Norway) public and the ministry of water recourse of Nepal Government. The shareholders to BPC are; Shangri-la Energy limited with 68.95%, public 10%, Nepal Government 9.09%, Inter kraft Nepal as 6.05%, employees 2% Nepal electricity Authority 1.06% and Nepal industrial Development Corporation on 0.06%. This is a very good example of public, private Government and employees' ownership.

With the vision to provide quality and competitive service to its consumers, BPC has the mission of supplying electricity within its distribution are in Nepal. and expand its distribution to feasible areas, plan build , acquire own and operate electric power plants as well as purchase electricity meet its electricity needs,

make strategic investments to support its interests, supply affordable electricity, and render professional services in its areas of expertise (12th Annual report of BPC, F/Y 2060/61).

1.3 Objectives of BPCL

Butwal Power Company Limited is a public company established With the vision to provide quality and competitive service to its consumers, BPC has the mission of supplying electricity within its distribution are in Nepal. and expand its distribution to feasible areas, plan build , acquire own and operate electric power plants as well as purchase electricity meet its electricity needs, make strategic investments to support its interests, supply affordable electricity, and render professional services in its areas of expertise.

Besides, BPC is not only designed and constructed but also owns and operates the 12 MW Jhimruk Hydropower plant and the 5.1 MW Andhikhola Hydropower plant. The company supplies power to the national electricity grid and also lights up 22000 local households.

1.4 Statement of Problem

Cash is a blood for every organization which spreads every part of activities within an organization. So, cash management in productive manner is given high priority by every organization. To manage the cash in effective way, there need effective controlling mechanism which provides different information to take decision for the management of cash in BPC. This study is attempted to analyze cash flow of BPC under different headings with linking each other to provide the insight knowledge to manage cash through application of cash flow analysis. For this, the present analysis is tried to find:

- What is the situation of BPC in its operation?
- What do the cash flow statements of the BPC indicate?

- Whether the BPC has managed the cash properly or not?
- Whether there are any irregularities in cash flow of the BPC or not?
- How far they have been able to keep the sound status in terms of business success?

1.5. Objectives of the Study

The main objective of this study is to analyze the cash flow of BPC to get the in-depth information related with cash management. This objective is associated with following objectives.

- To analyze the trend of cash flow of BPC.
- To examine, analyze and compare the cash flow of different headings (i.e. operating, investing and financing).
- To identify the strengths and weaknesses of cash management of BPC.
- To reflect ability to generate cash flow in future periods.
- To provide suggestions and recommendations for future improvement on cash flow and cash management.

1.6. Significance of Study

No organization can exist without cash. But mishandling of cash is also a type of disease for the organization for its failure because it is assumed that cash is blood for every organization. Every activities performed by organization directly or indirectly relates with cash in short run or long run. So, management is highly prioritized to manage cash by dividing the inflow and outflow of cash with segregating into different headings. These headings are: operating activities, investing activities and financing activities. These activities cover all activities of any organization. So, the study of cash flow analysis is considered as the integrated approach to management science.

This study is focused on analysis and explanation of cash, cash flow budget and the cash position which are the key factors of any organization. The component of cash flow budget shows the financial health of organization in a critical way. The statement of cash flow revel the solvency position of a firm. The information concerning statement of cash flow can be used to evaluate the ability to generate positive cash flow for the future periods, pay dividend and financial growth. On the other hand, the decision makers know the direction is which a strategy is likely to affect cash flow on the short term and over long term. This study is significant for the following purpose.

- Useful to the concern person like management, policy maker and shareholders.
- Beneficial to other related organization.
- Helps to other new researchers.
- Library asset for common use.

1.7. Limitation of Study

No research can be done without boundary. In that sense, the present study is also not free from limitations. These mail limitations are the cause of time and cost which made following limitation for the study.

- This study covers the data of only last five years from 2064/65 to 2068/069.
- This study based on secondary data provided by BPC and other document published on different media. So, the accuracy of the study depends on the accuracy of the data.
- This study limited only cash flow analysis of BPC as part of profit planning and control.

1.8. Organization of Study

This research study has been organized as followings chapters:

Chapter 1: Introduction

This chapter is the introductory chapter which covers general back ground, introduction to the organization, focus of study, limitation of study, objectives of study etc.

Chapter 2: Conceptual Framework & Review of Literature

This chapter reviews the existing literature in related area mainly it includes the fundamental concept and brief review of previous research work i.e. book, journal, internet and thesis.

Chapter 3: Research Methodology

This chapter describes the methodology employed for the study. It includes research de sign, data collection and method of analysis and key term.

Chapter 4: Presentation and analysis of data

This chapter is the main chapter of the study which applies different (financial and statistical) tools and techniques for the data to get analysis. It also includes major findings of the study.

Chapter 5: Summary, Conclusions and Recommendations

This chapter gives the summary, conclusions and different recommendations with bibliography and appendixes.

CHAPTER II

CONCEPTUAL FRAMEWORK & REVIEW OF LITERATURE

The word research is derived from French word i.e. re-searcher which means to seek again about what has in existence or both repetitions of research work in the sense to review as per its relevancy to the subject matter. The main objective of this chapter is to analyze the research work and clarify the study on a rational basis. But only limited numbers of studies have been conducted in the field of cash flow statement. The chapter has been divided into two sections and is organized as follows.

• Conceptual Framework

• Review of Previous studies

2.1. Conceptual Framework

"The term cash flow statement is an indicator of the amount of cash receipts and the amount of cash payments or disbursements during a specified period. Cash flow is the net amount of money received by an individual or business in a given period. If cash flows are budgeted correctly, enough funds should be available to meet cash payments as they occur. Cash flow should not be confused with profits and losses; many companies have gone out of business while making profits, simply because they ran out of cash" www.cashflow.com). It is a statement which shows the inflows and outflows of cash and equivalents during the year. It is defined as a statement of company's ability to generate cash from various activities and their need of cash.

Cash flow management is the process of monitoring, analyzing, and adjusting cash flows. For small businesses, the most important aspect of cash flow management is avoiding extended cash shortages, caused by having too great a gap between cash inflows and outflows. Funds can be of two types they are either in the form of working capital or in cash. If the fund is considered as working capital then we have to prepare the funds flow statement whereas if the fund is taken as cash then we have to prepare cash flow statement.

There are different concepts regarding fund. Some concepts insist that only cash should be considered as fund and another concept states that fund is not only the cash but the financial resources which can be converted into cash can also be included in funds.

2.1.1. Funds Flow Analysis

"The funds flow statement consists of two terms 'funds and 'flow'. The 'funds' refers to as pecuniary resources that can be measured in term so money. It may be interpreted as cash or working capital or all financial resources. 'Flow' means change in amounts of funds between two periods. Thus, the statement designed to highlights the change in the financial position of business is known as funds Flow Statement" (Dangol; 20064:360).

The balance sheet and income statement of a business shows the financial position at a given point of time and summary of revenue and expenses during the accounting period. But for evaluating the past performances, future potential of a business, a separate statement has to be prepared which is known as funds flow statement. For showing the changes in assets and liabilities from the end of one period of time to the end of another period of time a statement of changes in financial position or a funds flow statement has to be prepared. The comparatively study of two balance sheets of a company prepared for two different years for knowing the financial activities of a company is known as funds flow statement.

Form where the funds have been obtained, which is known as sources and where the funds have been utilized, which is known as uses are shown by a funds flow statement.

"Funds flow statement is the statement of sources and uses of fund. Funds flow statement shows the sources from which the funds are received and the areas to which they obtained funds have been utilized. Funds flow statement indicates various mean by which funds were received during a particular period and the ways in which these funds were applied. Thus, the funds flow statement is an essential tool for financial analysis" (Koirala and others; 2064:310).

It explains the sources from which additional fund i.e. working has been arrived and the uses to which the fund or working capital has been employed. Funds flow statement is prepared on the basis of two balance sheets of subsequent dates and highlights the changes in the financial position of a concern. The main purpose of funds flow analysis is to get clear information about the financial transactions that bring changes in the companies' resources. The objective of funds flow statement is to disclose the cause of changes in the assets, liabilities and equity capital between two balance sheet dates. It highlights the changes in financial position of a concern and indicates the various means by which funds were obtained during a particular period and the ways to where these funds were utilized. By comparing balance sheets of two different dates funds flow statement is prepared which shows the inflow and outflow of the funds. It is a kind of financial tools which answers the following questions.

•"From which source fund were received?

• How many funds were received?

• For what purpose the fund is used?" (Lucy T.;1998: 125).

2.1.2. Cash Flow Analysis

"Cash is the lifeblood of a business enterprise. It is the fuel that keeps a business alive. Without cash no activities can take place. So a business must have an adequate amount of cash to operate. As such of the decision makers must pay close attention to the firm's cash position and events and transaction that affect the cash position of the company is termed as cash flow analysis" (www.cashflow.com).

Cash flow analysis is the study of the cycle of the business cash inflows and outflows, with the purpose of maintaining an adequate cash flow for the business, and to provide the basis for cash flow management. Cash flow analysis involves examining the components of the business that affect cash flow, such as accounts receivable, inventory, accounts payable, and credit terms. By performing a cash flow analysis on these separate components, the company should be able to more easily identify cash flow problems and find ways to improve the cash flow.

A quick and easy way to perform a ca sh flow analysis is to compare the total unpaid purchases to the total sales due to the end of each month. If the total unpaid purchases are greater than the total sales due to the company would be need to spend more cash than receive in the next month, indicating a potential cash flow problem. Cash flow is calculated by making certain adjustments to net income by adding or subtracting differences in revenue, expenses and credit transactions resulting from transactions that occur from one period to the next. These adjustments are made because non-cash items are calculated into net income and total assets and liabilities. So, because not all transactions involve actual cash items, many items have to be re-evaluated when calculating cash flow from operations. The other method of cash flow is calculated by different adjustments

of operating activities, investing activities and financing activities within different operations.

2.1.3. Cash Flow and Profitability

Profits are accounting measures that may not reflect the economic reality of the firm. Increasing profits will not always result in higher stock prices. Profits of the firm depend on many factors such as method of depreciation; non operating gains; incomes, expenses and losses. People often mistakenly believe that a cash flow statement will show the profitability of a business or project. Although closely related, cash flow and profitability are different. A cash flow statement lists cash inflows and cash outflows while the income statement lists income and expenses. A cash flow statement shows liquidity while an income statement shows profitability.

Many income items are also cash inflows. The sales of crops and livestock are usually both income and cash inflows. The timing is also usually the same as long as a check is received and deposited into account at the time of the sale. Many expense items are also cash outflow items. The purchase of livestock feed (cash method of accounting) is both an expense and a cash outflow item. The timing is also the same if a check is written at the time of purchase.

All the available cash not the profit determines the firms' future investment and growth. Cash flows have earning potential and capture the economic impact of managerial decisions. Cash flow not the profit that determines the wealth.

2.1.4. Cash Flow Statements

A cash flow statement is one of the most important financial statements for a project or business. The statement can be as simple as a one page analysis or may involve several schedules that feed information into a central statement. A cash flow statement is a listing of the flows of cash into and out of the business or project. A cash flow statement is a listing of cash flows that occurred during the

past accounting period. A projection of future flows of cash is called a cash flow budget. A cash flow statement is not only concerned with the amount of the cash flows but also the timing of the flows. Many cash flows are constructed with multiple time periods. For example, it may list monthly cash inflows and outflows over a year's time. It not only projects the cash balance remaining at the end of the year but also the cash balance for each month. Working capital is also an important part of a cash flow analysis. It is defined as the amount of money needed to facilitate business operations and transactions, and is calculated as current assets less current liabilities. Computing the amount of working capital gives a quick analysis of the liquidity of the business over the future accounting period. If working capital appears to be sufficient, developing a cash flow budget may be not critical. But if working capital appears to be insufficient, a cash flow budget may highlight liquidity problems that may occur during the coming year.

Cash flows analysis is done through statement of cash flows. A cash flow statement is a statement of company's ability to generate cash from various activities such as operating, investing and financing and their need of cash. It is a statement which shows the inflows and outflows of cash and cash equivalents during the year. A cash flows statement is defined as "a statement of company's ability to generate cash from various activities and their need of cash." (Munakarmi; 2063: 13.9).

The cash flow analysis is an essential ingredient which has its own special technique. Moreover we should analyze cash flow ability of the firm to serve fixed charges. When the company issues the securities in greater amount with short maturity period, its fixed charges will be high. Fixed charges of any firm include principal plus interest payment on debt, lease payment and dividend on preferred stock. The firm should try to cover all fixed charges by analyzing expected future cash flows before assuming any fixed charges. The inability to meet the fixed charges may result in financial insolvency. Therefore the more stable future cash

flow means the greater debt capacity of the company. Due to this reason, an analysis of the cash flow ability of the firm it's the best way to analyze its financial risk. As such an enterprise should prepare a cash flow statement and should present it as an integral part of its financial statement for each periods for which financial statement are presented.

2.1.5. Importance of Cash Flow Analysis

Cash flow statement is an important complement to the other major financial statements. Cash flow statement summaries the operating, investing and financing activities of a business organization, reports the changes in cash over a period of time and explains the causes of changes. Enterprise needs cash to conduct their operation, to pay their obligation and to provide returns to their investors. Users of an enterprise financial statement are interested in how the enterprise generates and uses cash and cash equivalents. Cash flow statement is important to provide information about inflows and outflows of cash and cash equivalents. It provides useful information to:

a. Assess a company's ability to generate positive future cash flows.

b. Assess a company's ability to meet its obligation, its ability to pay dividends and its need for external financing.

c. Assess the reason for differences between income and associated cash receipts and payments.

d. Assess both the cash and non cash aspects of a company's investments and financial transaction.

e. Assess a company's quality of earning. The quality of earning refers to how closely income is correlated with cash flows. Higher the correlation the higher the earning quality.

f. Assess a company's solvency, liquidity and financial flexibility. Solvency is the ability of a company to pay its debt as they mature. Liquidity is the ability to generate adequate amount of cash and also refers to assets and liabilities nearness to cash. Financial flexibility refers to adapt during a periods of financial adversity, to obtain financing to liquidate non operating assets for cash. In other words the cash flow statement may help to answer the following:

a. If a company operates at a profit why is it continually short of cash?

b. How can a company operate at a loss and still generate huge inflows of cash from operations?

c. How was the company's growth and expansion financed?

d. Was financing obtained during the period through issuance of debt or equity securities? If so what were the amount of cash obtained?

e. Did the company use cash to retire any long term debt or equity securities during the period?

f. Are the company's incomes producing activities using more cash than they are generating?

g. Do operating activities consistently generate enough cash to assure prompt payment of operating expenses maturing liabilities interest obligation and dividends?

2.1.6. Aims and Objective of Cash Flow Statement

The cash flow statement of an enterprise is useful in providing information to the users of financial statements about the ability of an enterprise to generate cash and cash equivalents and the needs of the enterprise to utilize those cash flows. Its aim and objective are mentioned below.

a. Cash flows statement will help the financial manager to explain the situation of sufficient cash balance in hand despite the business incurred loss or short of cash balance even if the business is making huge amount of profit.

b. Comparison between cash budget and cash flow statement may prove to be useful for the management for preparing cash budget for the periods to come.

c. With the help of cash flow statement the management can find out the causes of changes in the cash position on two dates.

d. Evaluation of financial policies can be done with the help cash flow statement.

e. As the cash flow statement helps the management to know and predict its cash position, it can plan its policy and make decisions regarding the redemption of debentures, purchase of fixed assets and so on.

2.1.7 Difference between Funds Flow Statement and Cash Flow Statement

a. Concept: Funds flow statement is based on working capital and cash flow is based on cash.

b. Accounting: Funds flow statement is based on accrual basis of accounting and cash flow statement is based on cash basis of accounting.

c. Preparation: Funds flow statement reveals the sources and application of funds and any difference represents net increase or decrease of working capital. Cash flow statement reveals the inflow and outflows of cash and difference represents the closing cash balance.

d. Purpose: Funds flow statement shows the causes of changes in working

capital position of a firm between two balance sheets dates. Cash flow statement shows the causes of changes in cash position of a firm between two balance sheet dates.

e. Usefulness: Funds flow statement is useful in planning intermediate and long term financing. Cash flow statement is more useful for short term analysis and cash planning of the business.

f. Schedule of changes in working capital: To get information about current assets and liabilities it is necessary to prepare the schedule of changes in working capital before preparing funds flow statement whereas in cash flow statement it is not necessary to prepare the schedule of changes in working capital.

2.1.8 Preparation of Cash Flow Statement

The cash flow statement is distinct from the income statement and balance sheet because it does not include the amount of future incoming and outgoing cash that has been recorded on credit. Therefore, cash is not the same as net income, which, on the income statement and balance sheet, includes cash sales and sales made on credit. The cash flow statement is prepared on the basis of cash basis of accounting. While calculating operating profits for cash flow statement, adjustment for prepaid and outstanding expenses and incomes are made to convert the data from accrual basis to cash basis. The statement is prepared by taking the opening balance of cash, adding to this all the inflows of cash and deducting all the outflows of cash from the total. The statement is more useful for short term analysis and cash planning of the business. Cash flows statement shows the sources and application of cash. Following are the major sources and use of cash.

Sources of Cash

A. cash from operation

B. sales of fixed assets

C. issues of shares

D. issues of debentures

E. raising long term loan

F. decrease in working capital

Uses of Cash

A. cash loss from operation

B. purchase of fixed assets

C. redemption of redeemable preference shares

D. redemption of debentures

E. payment of dividend and income tax

F. increase in working capital

Cash flow is determined by looking at three components by which cash enters and leaves a company: core operations, investing and financing, Operations The operations component of cash flow reflects how much cash is generated from a company's products or services. Generally, changes made in cash, accounts receivable, depreciation, inventory and accounts payable are reflected in cash from operations.

Cash flow is calculated by making certain adjustments to net income by adding or subtracting difference in revenue, expenses and credit transactions (appearing on the balance sheet and income statement) resulting from transactions that occur from one period to the next. These adjustments are made because non-cash items are calculated into net income (income statement) and total assets and liabilities (balance sheet). So, because not all transactions involve actual cash items, many items have to be re-evaluated when calculating cash flow from operations.

Investing Activities

Investing activities are related with the purchase and sales of non current assets such as plant and machinery, land and building, furniture and fixture etc. Investing activities also include lending money and the purchase or sale of investments in securities. Changes in equipment, assets or investments relate to cash from investing. Usually cash changes from investing are a "cash out" item, because cash is used to buy new equipment, buildings or short-term assets such as marketable securities. However, when company divests of an asset, the transaction is considered "cash in" for calculating cash from investing.

Financing Activities

The financing activities section of the cash flow statement shows the sources of fund generated through owner's capital and borrowed capital. Changes in debt, loans or dividends are accounted for in cash from financing. Changes in cash from financing are "cash in" when capital is raised, and they are "cash out" when dividends are paid. Thus, if a company issues a bond to the public, the company receives cash financing; however, when interest is paid to bondholders, the company is reducing its cash.

The cash flows statement should be presented under informative approach in activity format. Under informative approach the cash flow statement may be presented using

1. Indirect Method
2. Direct Method

2.1.9 Indirect Approach to Cash Flow Statement

Under indirect approach net profit or loss is adjusted for the effects of transaction of a non cash nature, any deferrals or accruals of past or future

operating cash receipts or payments and items of income or expense associated with investing or financing cash flows. Operating activities relate to a company's primary revenue generating activities. It is the single major continuing source of cash. Operating activities are always within the management control and they provide base for management estimation of funds needed to rise from available sources. generally the cash effects of transaction and economic events included in the determination of income.

Operating Activities

Under indirect method the net cash flow from operating activities is determined by adjusting net profit or loss for the effect of

• Changes during the period in inventories and operating receivables and payables.

• Noncash items such as depreciation; provisions, deferred taxes and unrealized gains or losses; and

• All other for which the cash effects are investing or financing cash flows.

Alternatively the net cash flows from operating activities under indirect method may be present showing operating revenues and expenses, excluding non cash items disclosed in the statement of profit and loss and the changes in inventories and operating receivable and payables during the period.

Investing Activities

It include lending money (investment) and collecting on those loan, buying and selling productive assets that are expected to generate revenues in future periods and buying and selling securities not classified as cash equivalents.

Investment activities are:

• Cash payments to acquire the fixed assets

• Cash receipts from disposal of fixed assets

• Cash payments to acquire shares, warrants or debt instrument of other companies

• Cash advances and loan made to other parties

• Cash receipts from the repayment of advances and loans made to third parties.

Financing Activities

It include borrowing money from creditors and repaying the amounts to borrower and obtaining resources from owners, repayment of borrowed funds/amount and payment of dividend to owners. The separate disclosures of cash flows arising from financing activities is important, because it is useful in predicting claims on future cash flow by providers of funds.

Financing activities are:

• Cash proceeds from issuing shares or other similar instrument.

• Cash proceeds from issuing debenture, loan, notes, bonds and other short or long term borrowings and

• Cash repayments of amount borrowed.

Cash Flow Format under Indirect Approach

Net profit for the period	**xxx**
Add: Non cash and non operating expenses and losses	
(Item wise)	xxx
Less: Non cash and non operating income and gains	
(Item wise)	(xxx)
Funds from operation	**xxx**
Add: Decrease in current assets, other than cash	
(Item wise)	xxx
Increase in current liabilities (item wise)	xxx
Less: Increase in current assets, other than cash	
(Item wise)	(xxx)
Decrease in current liabilities (item wise)	(xxx)
Cash from operating activities	**xxx**
C2: Cash from Investing Activities:	
Cash Inflows:	
Sales of fixed assets	xxx

Cash from sale of equity or debt of other enterprises	xxx
Cash from the repayment of advances and	
loan made to other parties	xxx
	xxx
Less: Cash payment to acquire property	(xxx)
Cash payment to acquire equity or debt of other companies'	(xxx)
Cash payment for advances and loans made to other parties	(xxx)
C2: Net Cash flows from Investing Activities	**xxx**
C3: Cash flows from Financing Activities:	
Issue of shares	xxx
Issue of debenture and bonds	xxx
Cash collection from loan and mortgage	xxx
	xxx
Less: Redemptions of shares	(xxx)
Redemptions of debenture and bonds	(xxx)
Repayment of loan and mortgage	(xxx)
Dividend payment	(xxx)
C3: Net Cash flows from Financing Activities	**xxx**
Total Cash Flows [C1+C2+C3]	xxx

Cash or Cash equivalent at the beginning	xxx
Cash or cash equivalent at the end of the period	**xxx**

Source: Dangol, 2064:439

2.1.10. Direct Approach to Cash Flow Statement

When the direct method is used the cash flow statement does not begin with net income, rather, it shows cash collected from customer and is deducted cash used for various expenses. That is, major class of gross receipt and gross cash payments are disclosed.

Determination of Cash Flow from Operating Activities

Operating Activity only include transaction that relate to the calculation of net income. It involves the production or purchase and the sales of goods and services to customers. Cash flow from operating activities includes all cash flows from transaction that is not defined as investing or financing activities.

The cash flow from operating activities is primarily derived from the principal revenue producing activity of the enterprise. Examples of cash flows from operating activities are:

• Cash receipts from the sales of goods and the rendering of services.

• Cash receipts form royalties, fees, commission, and other revenue.

• Cash payments to suppliers of goods and services.

• Cash payments to and on behalf of employees.

• Cash payments or refunds of income taxes.

The direct method provides information which may be useful in estimating future cash flows and which is not available under the indirect method. Under

direct method information about major classes of gross receipts and gross cash payments may be obtained either.

• Changes during the period in inventories and operating receivables and payables

• Other non cash items and

• Other items for which the cash effects are investing or financing cash flows

Determination of Cash Flow from Investing Activity

Determination of cash flows from investing activities require to analyze the non operating incomes and expenses in income statement relating to

• Productive assets

• Investment in share and debentures

• Intangible assets

• Short term investments other than cash equivalents

Determination of Cash Flow from Financing Activity

A company's transactions with its owners and long term creditors are typically called financing activities. Financing activities also include borrowing cash on short term basis. For determination of cash flow from financing activities items relating to

• Share capital equity

• Share premium

• Debenture

• Dividend proposed and

• Comparative balance sheets should be analyzed by preparing necessary accounts.

Cash Flow Format under Direct Approach

Cash inflows	
A: Sales	xxx
Add: Decrease in sundry debtor's	xxx
Decrease in bills receivable	xxx
Increase in provision for bad debt	xxx
Increase in provision for discount	xxx
Bad debts recovered	xxx
	xxx
	xxx
Less: Increase in sundry debtor	xxx
Increase in bills receivable	xxx
Bad debts	xxx
Discount allowed	xxx
Decrease in provision for bad debtsxxx	
Decrease in provision for discount	xxx
(A) Collection from Costumers	**xxx**

B: Interest Incomexxx

Add: decrease in accrued interest xxx

xxx

Less: increase in accrued interestxxx

(B) Collection from Interest Income xxx

C: Dividend Income xxx

Add: Decrease in dividend receivable xxx

Less: Increase in dividend receivable xxx

(C) Collection from Dividend Income xxx

Cash Outflows:

D: Cost of Goods Sold xxx

Add: Increase in inventory xxx

Decrease in sundry creditor xxx

Decrease in bills payable xxx

xxx

Less: Decrease in inventory xxx

Increase in bills payable xxx

Increase in sundry creditor xxx

Discount receivedxxx

(D) Payment to supplier xxx

E: Salary and Wage Expensesxxx	
Add: Decrease in salary or wage payablexxx	
Increase in prepaid salary or wage	xxx
	xxx
Less: Increase in salary or wage payable	xxx
Decrease in prepaid salary or wage	xxx
(E) Payment to Employees	**xxx**
F: Income Tax Expenses	xxx
Add: Decrease in taxes payable	xxx
Increase in advance taxes	xxx
	xxx
Less: Increase in taxes payable	xxx
Decrease in advances taxes	xxx
(F) Payment of Government for taxes	**xxx**
G: Interest Expenses	xxx
Add: Decrease in interest payable	xxx
	xxx

Less: increase in interest payable	xxx
(G) Payment to Creditors for Interest	**xxx**
H: Insurance Expenses	xxx
Add: Decrease in insurance payable	xxx
Increase in advance insurance	xxx
	xxx
Less: increase in insurance payable	xxx
Decrease in advance insurance	xxx
(H) Payment for Warranty Service	**xxx**
I: Other Expenses	xxx
Add: Decrease in expense payable	xxx
Increase in advance payable	xxx
	xxx
Less: Increase in expense payable	xxx
Decrease in advance payable	xxx
(I) Payment for Expenses	**xxx**
Cash from Operating Activities before Extra Ordinary Items:	
(A+B+C-D-F-G-H-I)	**xxx**
Add: Increase in bank overdraft	xxx
Increase in short term loan	xxx

	xxx
Less: Decrease in bank overdraft	xxx
Decrease in short term loan	xxx
C1: Net Cash from Operating Activities	**xxx**
C2: Cash from Investing Activities:	
Cash Inflows:	
Sales of fixed assets	xxx
Cash from sale of equity or debt of other enterprises	xxx
Cash from the repayment of advances and loan made to other parties	xxx
	xxx
Less: Cash payment to acquire property	(xxx)
Cash payment to acquire equity or debt of other companies'	(xxx)
Cash payment for advances and loans made to other parties	(xxx)
C2: Net Cash flows from Investing Activities	**xxx**
C3: Cash flows from Financing Activities:	
Issue of shares	xxx

Issue of debenture and bonds	xxx
Cash collection from loan and mortgage	xxx
	xxx
Less: Redemptions of shares	(xxx)
Redemptions of debenture and bonds	(xxx)
Repayment of loan and mortgage	(xxx)
Dividend payment	(xxx)
C3: Net Cash flows from Financing Activities	**xxx**
Total Cash Flows [C1+C2+C3]	xxx
Cash or Cash equivalent at the beginning	xxx
Cash or cash equivalent at the end of the period	**xxx**

Source: Dangol, 2064:420

2.2 Review of Articles and Previous Studies

2.2.1 Articles

1. **Mills, John, and Jeanne H.Yamamura (1998),** in their article *"The Power of Cash Flow Ratios."*Journal of Accountancy 186, no. 4: 53–57. Writes, the cash flow analysis is an essential ingredient which has its own special technique. Moreover we should analyze cash flow ability of the firm to serve fixed charges. When the company issues the securities in greater amount with short maturity period, its fixed charges will be high. Fixed charges of any firm include principal plus interest payment on debt, lease payment and dividend on preferred stock. The firm should try to

cover all fixed charges by analyzing expected future cash flows before assuming any fixed charges. The inability to meet the fixed charges may result in financial insolvency. Therefore the more stable future cash flow means the greater debt capacity of the company. Due to this reason, an analysis of the cash flow ability of the firm it's the best way to analyze its financial risk. As such an enterprise should prepare a cash flow statement and should present it as an integral part of its financial statement for each periods for which financial statement are presented.

2. **Silver, Jay (March/April 1997)** in his article, *"Use of Cash Flow Projections."*Secured Lender, writes, the cash flow statement shows how much cash comes in and goes out of the company over the quarter or the year. At first glance, that sounds a lot like the income statement in that it records financial performance over a specified period. But there is a big difference between the two. What distinguishes the two is accrual accounting, which is found on the income statement. Accrual accounting requires companies to record revenues and expenses when transactions occur, not when cash is exchanged. At the same time, the income statement, on the other hand, often includes non-cash revenues or expenses, which the statement of cash flows does not include.
3. **Simon, Geoffrey A (2001)** in his article *"A Cash Flow Statement Says, 'Show Me the Money!'"* Tampa Bay Business Journal 27 writes, A company is said to be bankrupt when it experiences financial distress to the extent that the protection of the bankruptcy laws is employed for the orderly disposition of assets and settlement of creditors' claims. Significantly, not all bankruptcies are fatal. In some circumstances, creditors may allow the bankrupt company to reorganize its financial affairs, allowing the company to continue or reopen. Such reorganization might include relieving the company from further liability on the unsatisfied portion of the company's obligations. Admittedly, such

reorganizations are performed in vain if the reasons underlying the financial distress have not been properly resolved. Unfortunately, properly-prepared and timely cash flow analyses cannot compensate for poor management, poor products, or weak internal controls.

2.2.2 Thesis

Dahal, Rohit Kumar (2005) has conducted a research entitled *"Cash Flow Budget Analysis of Service Industry as Component of Profit Planning and Control"* (A case study of Sagarmatha Insurance Company PVT Ltd). The main objectives and major findings and some recommendations are as follows:

Objectives of the study:

- To analyze sales and expense budget with cash budget of Sagarmatha Insurance Co.
- To draw the true picture of profit planning and control of Sagarmatha
  Insurance Co.
- To evaluate various budget with actual result.
- To find the trend of premium collection and investment and its impact of cash budget.

Major findings of the study:

- The company follows traditional method for planning the cash.
- The company posses' large amount of fund but it is not profitability invested. The company couldn't invest its available fund for national interest. The company is having narrow look for its investment. Even its return on investment is decreasing (10.4%) toward the end of study period.

- The company does not follow the optimum cash balance process. There is
- high idle cash (15-20%) of total cash available with it which invested prudently would have heavy returns.
- Though the total premium of company is increasing, its net profit is continuous decreasing.
- The company is undercapitalized. It does not possess borrowed capital
- The company does not seem applying the effective managerial tool "Profit palling and control" for controlling its activities.

Bhandari,Suman (2006) conducted a research entitled in "*A Study of Cash Flow Analysis in Nepalese Public Enterprises (A Case Study of Salt Trading Corporation Limited)"*. He has collected the data from secondary sources that are published by salt trading corporation limited for the period from 2056/57 to 2061/62. The main objectives and major findings and some recommendations are as follows:

- **Objectives of the study:**
- To analyze cash flow statement of Salt trading corporation.
- To analyze functional budget associated with cash flows.
- To reflect ability to generate cash flow in future periods.
- To find out the ability to meet its obligation.
- To provide suggestion and recommendation for effective cash management.

Major findings of the study:

- The company is not adopting the definite inventory policy because the levels of inventory were fluctuated.
- The company has ability to pay short-term ability to pay short term obligation which shows the financial strength of company.

- The debt serving capacity is satisfactory as indicated by average interest coverage ratio is 1.43 times.
- The long term solvency position of company is not satisfactory as it has used more debt as compare to equity.
- The average collection period is 26 days which shows the shows slow collection from debtors.
- The cash flow from operating activities was not adequate to meet the short-term and long-term obligations. The trend of cash flow from operating activities was fluctuated.
- The company has raised funds through loan and overdraft. It has not issued share except in the fiscal year of the study period which was also of very small portion. Due to such loan, the company paid more interest.
- No optimum cash and bank balance were maintained. The bank and cash balance were fluctuated than indicated no definite policy was maintained regarding the amount of cash hold at the end of each year.
- The cash flow per share was found highly fluctuated which shows the poor ability to pay dividend and current liabilities.
- The company has not adequate cash and bank balance to meet its short-term and long-term debts.

Bhandari, Hari (2008), has conducted a research on topic *"cash flow analysis of Agricultural Development Bank."* This research covers the time period of five fiscal years i.e. From2058/059 to 2062/063.the main objectives and major findings and some recommendations are as follows:

Objectives of the study:-

- To analyze the trend of cash flow of NTC.

- To examine, analyze and compare the cash flow of different headings (i.e. operating, investing and financing).
- To identify the strengths and weaknesses of cash management of NTC.
- To reflect ability to generate cash flow in future periods.
- To provide suggestions and recommendations for future improvement on cash flow and cash management.

Major findings of the study:

- Operating profit before adjustment of working capital is in positive growth for every year.
- Rate of operating cash flow of NTC is in increasing except in the F/Y. 2060/61 and its annual increment is Rs 93314.7(in ten thousand).
- NTC is expanding its investment at the rate of Rs 40530 (in ten thousand) per year is a major cause of cash outflow for each year during the study period.
- There is not any sales of investment on F/Y. 2060/61 and 2062/63.
- NTC has made huge repayment of retained earnings to NEPAL government on the F/Y. 2061/62 and payment of long term debt on F/Y. 2058/59 are the major cause of cash outflow for these fiscal year.
- There is not any receipt from long term debt on F/Y. 2062/63.
- Regular financing activities of NTC are long term debt receipt/payment, dividend payment, and repayment of retained earnings to Nepal government.
- Annual cash outflow rate from financing activities is Rs 59595.2 (in ten thousand).
- There is cash increase in every year except on F/Y. 2061/62.
- Minimum cash balance was kept on F/Y. 2062/63.

- Average cash inflow during the study period is Rs 99247.2 (in ten thousand).
- There is loss on foreign exchange in the average of Rs 71.2 (in ten thousand).
- Net cash flow is also in fluctuation.
- Standard deviation of CFOA is 156328.41 (in ten thousand).
- The average NPBT, CFOA, CFIA and CFFA are Rs 441825.8 (in ten thousand), rs-186897.8 (in ten thousand) and Rs -155680.8 (in ten thousand) respectively.
- There is positive correlation between CFOA and NPBT.
- There is negative correlation between NPBT and CFFA, NPBT AND CFIA.
- There is not scarcity of cash during the period to operate its general activities.
- Over all activities are satisfactory.

Kandel, Ram (2010), submitted a thesis entitled "*cash flow analysis of salt trading corporation limited"*. The main objectives and major findings and some recommendations are as follows:

Objectives of his study are:

- To analyze the trend of cash flow of STC,
- To examine, analyze and compare the cash flow of different headings (i.e. Operating, investing and financing),
- To identify the strengths and weaknesses of cash management of STC,
- To reflect ability to generate cash flow in future periods
- To provide suggestions and recommendations for future improvement on cash flow and cash management.

Major findings of the study:

- Rate of operating cash flow of STC is in fluctuating trend.
- There is no continuous increment.stc is expanding its investment at the rate of Rs. 527083.2 (in ten thousand) per year is a major cause of cash outflow for each year during the study period.
- There are not any sales of investment on F/Y. 2063/64 and 2064/065.stc has made huge repayment of income tax to NEPAL government on the F/Y. 2061/062 and 2064/065 and payment of long term debt on F/Y. 2061/062, 2062/063,2063/063 and 2065/066 are the major cause of cash outflow for these fiscal year.
- There is not any payment of long term debt on F/Y. 2064/065. Cash at end for the period is positive for all fiscal year. But the amount is on fluctuating.
- There is cash increase in every year. Minimum cash balance was kept on all fiscal year. And his recommendations are capital structure analysis should be developed in such a way by which cost of capital will be minimized. It will be better to determine required cash balance to operate regular activities. It will be better to assess working capital requirement according to the business expansion strategies. Future contingencies and selective cash need should be estimated properly. Excess cash should be invested in short term liquid assets that can be converted into cash as per the requirements. Least cost source of cash should be fined when there exist the needs of cash. Past trend in different headings of cash flow should be analyzed to make future plans to handle cash in effective way.

Baral,Khem (2013) has conducted a research on *topic "cash flow analysis of Agricultural Develop Bank."* This research covers the time period of five

fiscal years i.e. From2061/062 to 2065/066.the main objectives and major findings and some recommendations are as follows

Objectives of the study:

• To analyze the trend of cash flow of ADBL.

• To examine, analyze and compare the cash flow of different headings (i.e.

Operating, investing and financing).

• To identify the strengths and weaknesses of cash management of ADBL.

• To reflect ability to generate cash flow in future periods.

• To provide suggestions and recommendations for future improvement on cash flow and cash management.

Major findings of the study:

• Rate of operating cash flow of ADBL is in fluctuating trend. There is no continuous increment.

• ADBL is expanding its investment at the rate of Rs. 2904.59(in ten thousand) per year is a major cause of cash outflow for each year during the study period.

• There is not any payment of long term debt on F/Y. 2064/065.

• Cash at end for the period is positive for all fiscal year. But the amount is on fluctuating.

• There is cash increase in every year.

• Minimum cash balance was kept on all fiscal year.

• Net cash flow is also in fluctuation.

• standard deviation for the study period of cash at beginning, net cash flow, foreign exchange gain/loss and cash at the end are 14931626.73, 12553282.86, 21993066.72 and 14030664.97 respectively.

• Maximum standard deviation is aroused on beginning cash balance.

•correlation coefficient between CFOA and CFIA is 0.046 (positive) represents positive correlation between those variables.

• The correlation coefficient between CFOA and CFFA 0.64 is negative.

• Correlation coefficient between CFFA and CFIA is 0.51 which represents positive correlation.

• There is not scarcity of cash during the period to operate its general activities.

• Over all activities are satisfactory.

2.3 Research Gap

There is gap between the present research and the previous research in terms of

Some objectives, tools for analysis, period of data and the organization. The

Main issue of this study is to analyze the cash flow statement of BPCl. This study has used financial and statistical tool for cash flow analysis. It is mainly concern with BPCl and data is taken in between 2065/66 to 2070/71. This study has been done to analyze the trend of cash flow of selected organization, to examine, analyze and compare the cash flow, to identify the strengths and weaknesses of cash management of BPCl and to provide recommendations to the concerned organization for future improvement on the basis of this study.

CHAPTER - THREE

RESEARCH METHODOLOGY

The knowledge of human being is rising through the getting answer of different questions like why, how, when, where, what etc. To answer these questions, they should gather information and analyze them to achieve their goals or satisfaction. "The research for gaining the knowledge about method of goal achievement, which we desire, is known as research methodology" (Joshi; 2001:12-13).

Research is to find out to gain knowledge about a phenomenon. Here are means repeatedly or again and again, and 'search' says to investigate or to find. Thus, Combine researching repeatedly is called research, which includes searching new facts, knowledge, principles and theories in scientific way Likewise; research needs various methodologies, tools, techniques etc. A systematic research studies needs to follow a proper methodology to achieve the pre mentioned objectives. "Research methodology is a sequential procedure and methods to be adopted in systematic study". The proper analysis of the study can be meaningful only on the right choice of research tools that help for meaningful conclusion. This chapter is mainly associated with research design, sample design, period of study, sources of data & data collection procedures, data processing & terms, methods, tools techniques, theories employed in the analysis & interpretation.

3.1. Research Design

"Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control variance" (Howard K.Wolfff and Prem; 1999:50). The main objective of the study is to analyze to cash flow statements of the public enterprise and provide suggestions on the basis of findings.

In order to fulfill objectives of the study as much as possible, an adequate attention has been paid in the process of Research Design. The research is carried out on the basis of secondary sources data. In the study, the researcher has followed the descriptive cum analytical research design to analyze the financial performance of the selected public enterprise. Various financial parameters and an effective research technique are employed to especially identify the weaknesses of these institutions. On the ground of observed infirmities and inefficiencies, an attempt will be made to suggest the reasonable and useful recommendations to the concerned.

3.2. Population and Samples

There are so many listed companies in Nepal. They are related with different sectors like banking, manufacturing and processing, hotels, trading, insurance, finance and others. It is not possible to study all of them regarding the research topic. Therefore among these, one reputed public company BPCL is taken as a sample company from population for this research study.

3.3. Sources of Data

This study is mainly based on the secondary data collected from the different published sources. The audited Balance Sheet, profit & loss account and related schedules of the concerned public enterprise was collected. Besides these, other essential data and information were collected from some published and unpublished documents. So far as the data collection procedure is concerned, annual reports of selected organizations were collected. In addition, answers on certain queries made to the staffs of concerned organization also assists in data collection procedure. The researcher has also consulted the library to gather necessary data and information during the course of study.

3.4. Data Processing and Tabulation

The necessary data from 2064/065 to 2068/069 for the study collected from various sources are recorded systematically for analysis. All the information is then identified, grouped and tabulated as per the need of study in order to meet the research objectives. Tabulated data are presented through the easy understanding graphs.

3.5 Tools and Techniques Used to Analyze the Data

The data analysis is made on the basis of various financial and statistical tools to achieve the research objectives. The researcher has used the following tool and techniques.

3.5.1 Financial Tools

- Cash Flow from Operation Activity to Cash Flow from Investing Activity = $\frac{\text{Cash Flow from Operating Activity}}{\text{Cash Flow from Investing Activity}}$
- Cash Flow from Financing Activity to Cash Flow from Investing Activity= $\frac{\text{Cash Flow from Financing Activity}}{\text{Cash Flow from Investing Activity}}$
- Cash Flow Margin Ratio= $\frac{\text{Operating Cash Flow}}{Sales}$
- Cash in Current Assets = $\frac{\text{Cash and Cash Equivalents}}{\text{Current Liabilities}}$

3.5.2 Statistical Tools

Statistical tool is very useful tool to analyze the available data to find the relation between these data and to predict about the trend and hidden fact in the relation.

So, different related tools from the statistical tool are utilized in terms research objectives. They are:

- **Arithmetic Mean**

  Arithmetic mean or simply a 'mean' of a set of observations is the sum of all the observations divided by the number of observations. Arithmetic mean is also known as arithmetic average.

  Mean $=\frac{\sum x}{n}$

- **Standard deviation**

  The standard deviation is the absolute measure of dispersion is which the drawbacks present in other measures of dispersion are remove. It is said to be the best measure of dispersion as it satisfies most of the requisites of a good measure dispersion.

  Standard deviation (S.D) is defined as the positive square root of the mean of the square of the deviations taken arithmetic mean. It is denoted by σ.

  $$\sigma = \sqrt{\frac{\sum(X - \bar{X})^2}{n}}$$

  X= variable

  n= no. of observation.

- **Correlation**

  To variables are said to have "correlation", when they are so related that the change in the value of one variable is accompanied by the change in the value of the other.

$$\text{Correlation (r)} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \times \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

- **Graphs and diagrams**

  Graphs and diagrams are nothing but the presentation of statistical data in the form of geometrical figures like points, lines, bars, rectangles, circles etc.

- **Trend Analysis**

  Forecasting technique that relies primary on historical time series data to predict the future. The analysis involves searching for a right trend equation that will suitably describe trend of data series. The trend may be linear, it may not. A linear trend can be obtained by using a least-squares method. The line has the equation y= a + b x

  y= dependent variable

  a=value of y when x=0

  b= slope of the trend line or amount of change that comes in y for a unit change in x.

3.6 Research Variables

Balance sheet, Profit and loss account, Cash flow statement including cash from operating activities, cash from investing activities and cash from financing activities are the research variables.

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

In this chapter, the researcher analyses & interprets the relevant and available data of selected company to research methodology as mentioned in previous chapter. Before starting presentation and the analysis of the data let's have a glimpse at the main items that are to be included in the cash flow statement.

4.1. Cash from Operating Activities

This includes all those activities which are main activities of any company. If the cash inflow from this activity is greater than the outflow then it is considered satisfactory, because it shows the companies have liberal cash to operate and to bear all the expenses and overheads occurred during the operation.

The cash from operating activities can be determined by applying any one method from 1) direct method or 2) indirect method. This selected company is applying indirect method to determine cash from operating activities. The difference between direct method and indirect method is: on direct method starting is sales and on indirect method starting is net profit. Net profit is calculated by deducting all cash and non cash expensed that can be deducted while calculating net profit. So, on this indirect method, there should be making some adjustment of different non cash expenses and income to determine actual cash flow. Following table shows the cash flow from operating activities of BPC.

Table 1

Cash Flow from Operating Activities of BPC

Particular	Fiscal year				
	2064/65 NRs	**2065/66 NRs**	**2066/67 NRs**	**2067/68 NRs**	**2068/69 NRs**
Net profit before tax	353,879,380	313,498,381	254,897,024	377,038,284	552,126,628
Adjustment					
Ordinary depreciation	35,443,163	56,006,247	53,085,001	52,791,501	57,062,324
Depreciation charge to grant aid in	5,276,103	5,866,305	7,547,367	9,407,824	10,772,241
Foreign exchange gain/loss	-18,217,263	-30,809,400	3,651,236	4,283,426	-8,769,975
Interest expenses	….	7,912,682	18,103,700	25,240,413	35,789,173
Interest receive	……	-11,272,109	-6,407,572	-15,824,992	-32,785,809
Dividend receive	-156,894,170	-104,842,701	-137,802,992	-164,265,280	-374,956,929
Provision on loss/(income) in investment	6,868,973	21,491,294	7,483,027	-6,360,430	43,791,984
Provision for expenses	-218,090	……	…….	13,303,987	-7,609,834
(gain)/ loss on disposal of stock	-142,834	-607,739	601,916	-2,295,016	-147,266
Deferred revenue expenses	3,577,308	…….	……..	749,372	-808,758
Written off of assets	……..	679,154	10,964,101	1,030,817	22,349,820
Operating profit before working capital changes	**237,364,857**	**257,922,114**	**212,122,807**	**295,099,905**	**296,813,599**
Decrease/(increase) in debtors & accounts receivable	-29,490,032	-82,952,202	77,669,634	-90,414,287	-99,485,220
Decrease/(increase) in stocks	-15,750,219	-17,468,820	-12,422,008	23,425,452	40,703,495
Decrease/(increase)in advance & deposit paid	-105,165,259	-846,257	-30,330,214	-67,153,314	-54,408,685
increase/(decrease) in creditors & accounts payable	-94,348,526	160,866,228	-145,112,591	21,937,559	34,592,322
increase/(decrease) in advance & deposit received	-1,425,111	6,766,571	23,356,196	-42,698,479	-11,489,942
Decrease/(increase) in deferred revenue expenses	-6,685,995	-970,423	90,134	……..	……
Cash generated from operations	229,572,570	323,317,211	125,373,958	140,196,837	206,725,570
interest paid		-7,912,682	-18,103,700	-25,240,413	-35,789,173
Foreign currency exchangegain/(loss)	18,217,263	30,809,400	-3,651,236	-4,283,426	8,769,975
Bonus paid		-9,503,641	-9,659,329	-5,457,355	-9,777,571
tax paid (advance)	7,284,775	-9,400,691	-12,246,889	-27,591,593	-70,515,114
prior year's adjustment	…….	-675,831	-111,018	-737,231	2,865,506
Net cash flows from operating activities (A)	**-16,360,876**	**326,633,766**	**81,601,786**	**76,886,819**	**102,279,192**

Sources: Annual Report of BPC (2064/65 To 2068/69)

The table shows that the total cash flow from operating activities for BPCl is Rs. -16,360,876 on F/Y 2064/65, Rs. 326,633,766 on F/Y 2065/66, Rs. 81,601,786 on F/Y 2066/67, Rs 76,886,819 on F/Y 2067/68 and rs.102,279,192 on 2068/69 respectively. This table shows the operating cash inflow of BPCl is in increasing rate except in the year of 2066/67. That may be the cause of irregular cash flow on non operating income and expenses and working capital which is also the reason for fluctuation on operating cash flow. These cash flows from operating activities are show on the figure 4.1.

Table 4.1 shows, on F/Y. 2064/65 net profit before tax is s Rs 353,879,380. On this profit adjustment on the head of ordinary depreciation Rs 35,443,163 depreciation charge to grant aid in Rs 5,276,103 foreign exchange gain/loss Rs -18,217,263 interest dividend receive Rs -156,894,170 provision on loss/(income) in investment Rs 6,868,973 provision for expenses Rs -218,090 (gain)/ loss on disposal of stock- Rs 142,834 deferred revenue expenses Rs 3,577,308 has been made.

On F/Y. 2065/66 net profit before tax is Rs 313,498,381. On this profit adjustment on the head of ordinary depreciation Rs 56,006,247 depreciation charge to grant aid in Rs 5,866,305 foreign exchange gain/loss Rs 30,809,400 interest expenses Rs 7,912,682interest receive Rs -11,272,109 dividend receive Rs -104,842,701 provision on loss/(income) in investment Rs 21,491,294 gain)/ loss on disposal of stock -607, has been made.

On F/Y. 2066/67 net profit before tax is Rs 254,897,024. On this profit adjustment on the head of ordinary depreciation Rs 53,085,001 depreciation charge to grant aid in Rs 7,547,367 foreign exchange gain/loss Rs 3,651,236 interest expenses Rs 18,103,700 interest receive Rs -6,407,572 dividend receive Rs -137,802,992

provision on loss/ (income) in investment Rs 7,483,027 gain)/ loss on disposal of stock rs 601,916 written off of assets Rs 10,964,101 has been made.

on F/Y. 2067/68 net profit before tax is Rs 377,038,284. On this profit adjustment on the head of ordinary depreciation Rs 52,791,501 depreciation charge to grant aid in Rs 9,407,824 foreign exchange gain/loss Rs 4,283,426 interest expenses rs 25,240,413 interest receive Rs -15,824,992 dividend receive Rs -164,265,280 provision on loss/ (income) in investment Rs -6,360,430 provision for expenses Rs 13,303,987 (gain)/ loss on disposal of stock Rs 2,295,016 deferred revenue expenses Rs 749,372 written off of assets Rs 1,030,817.

On F/Y. 2068/69 net profit before tax is Rs 552,126,628. On this profit adjustment on the head of ordinary depreciation Rs 57,062,324 depreciation charge to grant aid in Rs 10,772,241 foreign exchange gain/loss Rs -8,769,975 interest expenses Rs 35,789,173 interest receive Rs -32,785,809 dividend receive Rs -374,956,929 provision on loss/ (income) in investment Rs 43,791,984 provision for expense Rs -7,609,834 (gain)/ loss on disposal of stock Rs -147,266 deferred revenue expenses Rs -808,758 written off of assets Rs 22,349,820 are made. Before the adjustment of working capital, cash from operating activities of BPC for the F/Y. 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs 237,364,857, Rs 257,922,114, Rs 212,122,87, Rs 295,099,905 and Rs 296,813,599 respectively which are shown on figure: 1.

Table 2

Cash from Operating Activities before and After Change In WC

Particular	Fiscal year				
	2064/65 NRs.	**2065/66 NRs.**	**2066/67 NRs.**	**2067/68 NRs.**	**2068/69 NRs.**
Net profit before tax	353,879,380	313,498,381	254,897,024	377,038,284	552,126,628
Operating profit before working capital changes	**237,364,857**	**257,922,114**	**212,122,807**	**295,099,905**	**296,813,599**
Net cash flows from operating activities (a)	(16,360,876)	326,633,766	81,601,786	76,886,819	102,279,192

Sources: Annual Report from 2064/65 To 2068/69

On table 4.2, second row shows net profit before tax including none operating and non cash income and expenses. Third row shows operating profit before working capital but after adjustment of non operating income and expense. Last row shows net cash from operating activities which are shown on following figure 4.1 as follows:

Figure 1

Cash from Operating Activities before and After Change in WC

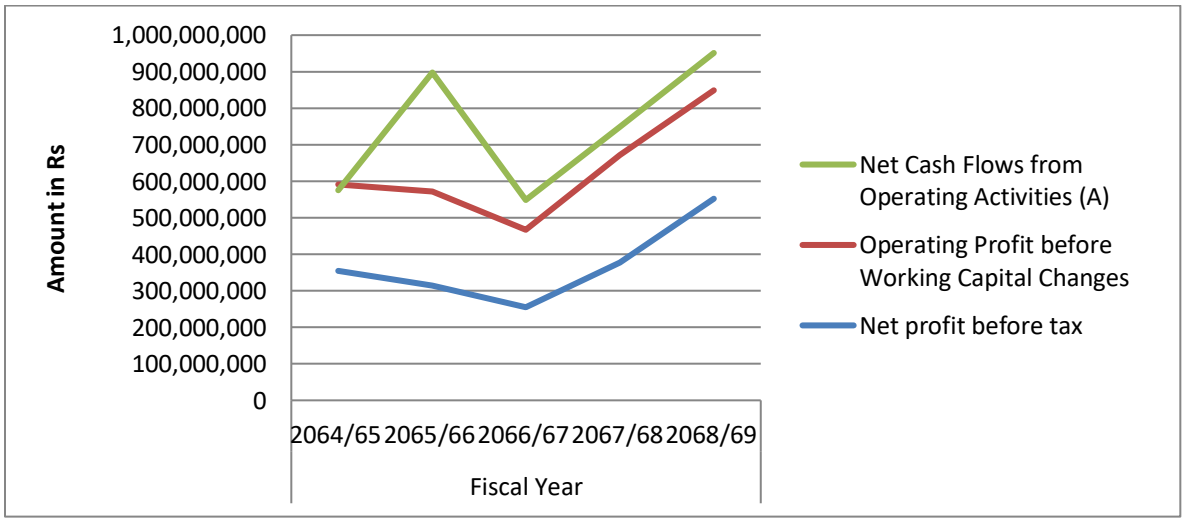


Figure 4.1 shows net cash flow from operating activities is more in all years with increasing rate in last three year. Operating profit before working capital change is gradually decreased in first three year, after then incremental rate is higher. Net profit before tax is in slow increment rate after 2066/67 before this it also gradually decreases.

4.1.1. Trend Analysis of Operating Cash Flow

To analyze the trend of actual sales, straight line trend by least square method has to be fitted. For this, let us assume that the fiscal year be x and the forecasted sales be y.

Let the straight line trend be

$y_c = a + b\,x$……. (i)

Table 3

Least Square Spreadsheet Cash from Operating Activities

Fitting of trend line by least square method				
Year(X)	Cash from operating activities (Y) in Rs	X=x-2066/67	x^2	xY
2064/65	-16,360,876	-2	4	32721752
2065/66	326,633,766	-1	1	-326633766
2066/67	81,601,786	0	0	0
2067/68	76,886,819	1	1	76886819
2068/69	102,279,192	2	4	204558384
n=5	∑Y =571040687	∑X=0	$\sum x^2$=10	∑xY= -6914312

Sources: Annual Report of BPC (2064/65 to 2068/69)

Since ∑x=0, so $a=\frac{\sum Y}{N}=\frac{571040687}{5}$ = 114208137.4

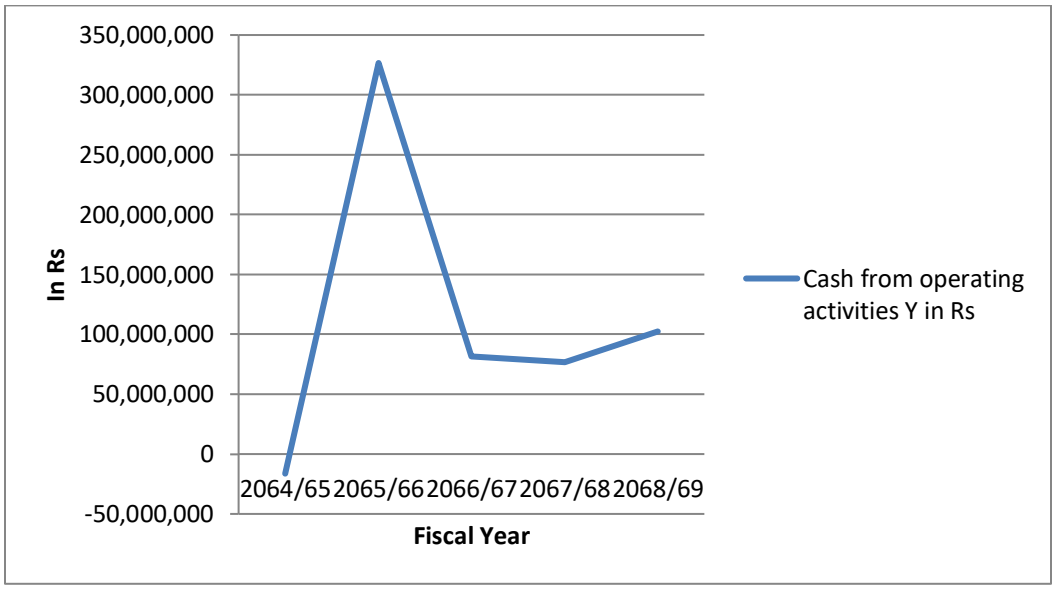
$$b=\frac{\sum xY}{\sum x^2}=\frac{-6914312}{10} = -691431.2$$

Substituting the value of a and b in (i), the equation of the trend line is

$$Y_c=114208137.4+ -691431.2x$$

This trend line shows the highly negative cash from operating activities for the future. The annual rate of decrease is Rs -691431.2. The trend line of cash from operating activities is shown below.

Figure 2: Trend Line of Net Cash Flow from Operating Activities



On this figure the net cash flow from operating activities is fluctuated. During the period, its rate of growth is positive in the beginning, in the mid period it is slightly decrease and increase in the last period which is shown by the above trend line.

4.2. Cash from Investing Activities

Cash flows from investing activities represent inflows and outflows that occurred within an accounting period and concern all the investments that the company has made. Primarily, these cash flows refer to cash received or paid for the acquisition or disposal of long term (fixed assets). Cash flows from investing activities should be reported separately from the cash flow from operating activities and in a unified form that does not allow the selection between a direct or indirect method. This includes all those investment made or sold inside or the outside the company. If the cash inflow is less than the cash outflow then it is considered satisfactory for the company because more the company is able to invest more it is considered to be able to expand.

The separate disclosure of cash flows arising from investing activities is important because the cash flows represent the extent to which expenditure has been made for resources intended to generate future income and cash flows. Examples of cash flows arising from investing activities are:

A. Cash payments to acquire property plant and equipment intangible and others long term assets. These payments include those relating to capitalized development costs and self constructed property plant and equipment.

B. Cash receipts from sales of property plant and equipment intangible and other long term assets.

C. Cash payments to acquire equity or debt instrument of other enterprise and interest in joint venture.

D. Cash receipts from sales of equity or debt instrument of other enterprises and interest in joint venture.

E. Cash advances and loans made to other parties.

F. Cash payments from the repayment of advances and loans made to other parties.

Investing activities are related with the purchase and sales of non-current assets such as plant and machinery, land and building, furniture and fixture etc. Investing activities also include lending money and the purchase or sale of investments in securities. Changes in equipment, assets or investments relate to cash from investing. Usually cash changes from investing are a "cash out" item, because cash is used to buy new equipment, buildings or short-term assets such as marketable securities. However, when a company divests of an asset, the transaction is considered "cash in" for calculating cash from investing.

Table 4

Cash Flow from Investing Activities

Particular	**Fiscal year**				
	2064/65	**2065/66**	**2066/67**	**2067/68**	**2068/69**
Cash flows from investing activities:					
Purchase of fixed assets	(22,568,319)	(102,148,818)	(87,922,633)	(83,363,120)	(139,166,139)
gain/(loss) on sale of assets/stock materials	142,834	…..	…….	…….	……..
Decrease (increase) in deferred revenue expenditure	(3,876,513)	…..	…….	…….	……..
investment in share	(12,152,500)	(228,275,990)	(101,077,104)	(125,642,158)	(148,466,633)
decrease/(increase) in work-in-progress	(6,136,876)	(5,963,482)	(52,248,919)	(110,084,250)	(201,900,353)
interest received	…….	11,272,109	6,407,572	15,824,992	32,785,809
Dividend received	……..	104,842,701	137,802,992	164,265,280	374,956,929
Net cash flows from investing activities (B)	(44,591,375)	(220,273,481)	(97,038,091)	(138,999,255)	(81,790,386)

Sources: *Annual Report of BPC (2064/65 to 2068/69)*

Above table 4 shows the cash flow from investing activities for F/Y. 2064/65 to 2068/69. As mentioned above, BPC has made purchase of fixed assets during the

period. This activities result on cash outflow. The maximum cash outflow during the period is Rs -139,166,139 on F/Y 2068/69. The minimum cash outflow from purchase of fixed assets is Rs -83,363,120 on F/Y. 2067/68. This means the company has increasing rate of purchase of fixed assets. The cash outflow from purchase of assets on 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs -22,568,319, Rs -102,148,818, Rs -87,922,633, Rs -83,363,120and Rs -139,166,139 respectively. During the study period change in WIP has been arise as Rs (6,136,876)on F/Y. 2064/65, Rs (5,963,482) on F/Y. 2065/66, Rs (52,248,919) on 2066/67, Rs (110,084,250)on 2067/68 and Rs (201,900,353) on 2068/69.on the above table the cash outflow for differed expenses Rs -3,876,513for F/Y. 2064/65.

Increase in investment is a cause for cash outflow and it increase future cash inflow through its return the cash outflow for the period 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs -12,152,500, Rs-228,275,990, Rs -101,077,104, Rs -125,642,158and Rs -148,466,633 respectively. Cash inflows from investing activities are income from investment and company deposit and sale of investment. Gain/ (loss) on sale of assets/stock materials is Rs 142,834 on 2064/65. On the other hand, the income from investment and company deposit is also a source for cash inflows. The income from interest are Rs 32,785,809 on 2068/69, Rs 15,824,992 on 2067/68, Rs 6,407,572 on 2066/67 and Rs 11,272,109 on 2065/66.the income from dividend are Rs 374,956,929 on 2068/69, Rs 164,265,280on 2067/68, rs137,802,992 on 2066/67 and rs104,842,701on 2065/66.

The net cash from investing activities are obtained through the addition and subtraction of all above statement of cash inflow and out flow. Cash out flow is presented with (–) sign at the beginning of the amount. The trend of cash flow of investing activities is not in fixed trend, it is fluctuating randomly. The net cash from investing activities are shown on figure 3.

4.2.1. Trend Analysis of Investing Cash Flow

Table 5

Fitting of trend line by least square method of investing act

Year(x)	Cash from investing (Y)	X=x-2066/67	x^2	xY
2064/65	-44591375	-2	4	89182750
2065/66	-220273481	-1	1	220273481
2066/67	-97038091	0	0	0
2067/68	-138999255	1	1	-138999255
2068/69	-81790386	2	4	-163580772
n=5	∑y=-582,692,588	∑x=0	$\sum x^2$=10	∑xY= 14004088

Sources: *Annual Report of BPC (2064/65 to 2068/69)*

Since ∑x=0, so $a=\frac{\sum Y}{N}=\frac{-582692588}{5}$ = -116538517.6

$$b=\frac{\sum xY}{\sum x^2}=\frac{14004088}{10} = 1400408.8$$

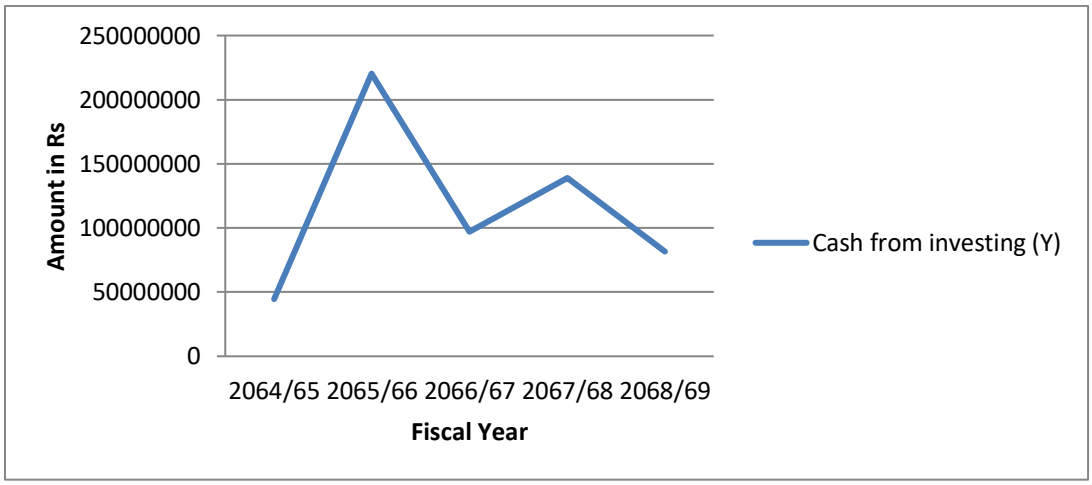
Substituting the value of a and b in (i), the equation of the trend line is

$$Y_c=-116538517.6+ 1400408.8x$$

This trend line shows the highly positive cash from investing activities for the future. The annual rate of increase is Rs 1400408.8. The trend line of cash from operating activities is shown below.

Figure 3

Trend Line of Net Cash Flow from Operating Activities



On this figure the net cash flow from investing activities is fluctuated. During the period, its rate of growth is positive in the beginning, in the mid period it is decrease and in the last period it also decrease, which is shown by the above trend line.

4.3 Cash from Financing Activities

This section shows the sources of fund generated through owner's capital and borrowed capital. Financing activities also include the repayment of debt and payment of cash dividend to shareholders. If the cash inflow is greater than the cash outflow whether it is satisfactory or not, depends on the situation. But it shows the company's ability to take risk but excess cash inflow through this activity is considered as not much healthier for the financial condition of the company. According to international accounting standard financing activities are:

A. Cash proceeds from issuing shares or other equity instruments.

B. Cash payments to owners to acquire or redeem the enterprise shares.

C. Cash proceeds from issuing debentures, loans, notes, bonds mortgage and other short or long term borrowings.

D. Cash repayments by a lessee for the reduction of the outstanding liability relating to a finance lease.

Table 6

Cash Flow from Financing Activities

Particular	**Fiscal year**				
	2064/65	**2065/66**	**2066/67**	**2067/68**	**2068/69**
Cash flows from financing activities:					
increase/(decrease) in grant aid in reserve	17,365,698	27,342,106	44,006,922	33,170,932	7,041,688
increase/(decrease) in long term loan		26,729,017	31,241,188	60,141,210	413,688,042
Increase/(decrease) in short term loan				-42,563,112	82,090,144
dividend paid	-251,717,310	-251,717,310	-167,811,540	-178,622,251	-245,413,850
Dividend income	156,894,170				
Net cash flows from financing activities (C)	-77,457,442	-197,646,187	-92,563,430	-127,873,221	257,406,026

Sources: *Annual Report of BPC (2064/65 to 2068/69)*

Table 6 presents the source and use of cash in the head of financing activities. On this table the financing activities of BPC are

: receipt in grant, receipt in long term debt, payment of long term debt, payment of dividend, payment of last year dividend, receipt from share and capital reverse adjustment to retained earnings during the period.

Cash inflows from financing activities are: receipt in grant, receipt of share capital, and receipt on long term debt. The receipt in grant on 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are: Rs 17,365,698, Rs 27,342,106, Rs 44,006,922, Rs 33,170,932 and Rs 7,041,688 respectively. Cash receipt on long term debt on 2065/66, 2066/67, 2067/68 and 2068/69, are: Rs 26,729,017, Rs 31,241,188, Rs

60,141,210 and Rs 413,688,042 respectively. Cash receipt on short term debt was on only 2068/69 amount of Rs 82,090,144 and dividend receive was on only 2064/65 amount of Rs 156,894,170.

Cash out flow headings are: payment of long term debt, payment of dividend payment of last year dividend and capital reverse adjustment to retained earning. Payment of short term loan on only 2067/68 is 42,563,112 and dividend paid on 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69, are: Rs 251,717,310, Rs 251,717,310, Rs 167,811,540, Rs 178,622,251and Rs 245,413,850 respectively. All the cash from financing activities are in negative except in 2068/69. The minimum cash amount is Rs -77,457,442on F/Y. 2064/65 and the maximum amount is Rs 257,406,026on F/Y. 2068/69. The cash flow from financing activities for remaining fiscal year 2065/66, 2066/67 and 2067/68 are Rs -197,646,187, Rs -92,563,430 and Rs -127,873,221respectively. The trend of cash flow from financing activities is show below on bar diagram (figure: 4).

4.3.1. Trend Analysis of Financing Cash Flow

Table 7
Fitting of trend line by least square method of investing act

Year(x)	Cash from financing (y)	X=x-2066/67	x^2	xY
2064/65	-77,457,442	-2	4	154914884
2065/66	-197,646,187	-1	1	197646187
2066/67	-92,563,430	0	0	0
2067/68	-127,873,221	1	1	-127873221
2068/69	257,406,026	2	4	514812052
n=5	∑y=-238,134,254	∑x=0	$\sum x^2=10$	∑xy= 739,499,902

Sources: *Annual Report of BPC (2064/65 to 2068/69)*

Since ∑x=0, so $a=\frac{\sum Y}{N}=\frac{-238,134,254}{5}$ = -47626850.8

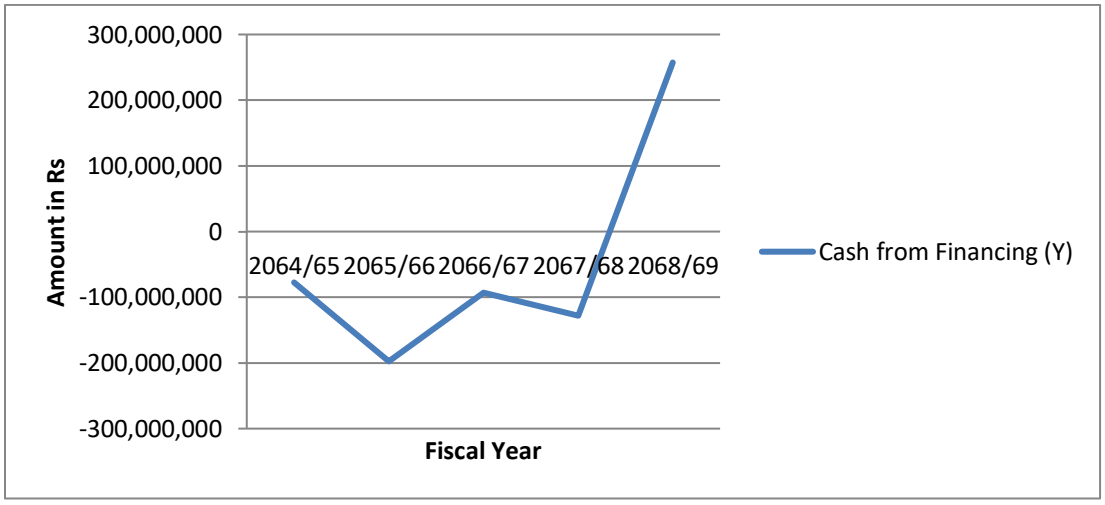
$$b=\frac{\sum xY}{\sum x^2}=\frac{739,499,902}{10} = 73949990.2$$

Substituting the value of a and b in (i), the equation of the trend line is

$$Y_c = -47626850.8 + 73949990.2x$$

This trend line shows the highly fluctuating cash flow for the period. The annual rate of increment is Rs 73949990.2. The trend line of net cash from financing activities is shown below.

Figure 4: Trend Line of Net Cash Flow from Operating Activities



4.4. Net Cash Flow Analysis

Cash flow is a result of different business activities. These activities are categorized in different group in terms of their nature and support provided by them. The group of activities are operating, investing and financing. Operating activities are those activities which are the cause for the organizational existence. Operational effectiveness is measured through the analysis of trend of cash from operation. There should be positive cash flows on total from these activities. That means the operating cash inflows are the source for the payment of business expenses and trading liabilities. On the other hand, investing and financing activities are mainly concern with bulk amount of cash that are related with

business expansion and long term source of cash. Generally, if the cash outflows on investing activities are increasing, organization is in continuous expansion. Again, if the cash inflow on financing activities through issue of share and long term loan, organization can get long term source of cash that can be used on long term investment or business expansion. Investing and financing activities are the activities through which long term sustainability can be measured. To be the efficient and effective on operation of business and expansion of business there should be balance between these activities to produce adequate cash for the requirement.

Net cash flow is the aggregate cash flow from these three heading of activities. The amount of net cash flows of a organization depend upon the type, size, condition and contingencies of the organization. So, there may be fluctuation on the net cash flow and the organization should apply required strategies to keep adequate balance of cash. The net cash flow of BPC for the period 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are shown below including different source of cash flow.

Table 8
Net Cash Flow of BPCL

Fiscal year	Net cash flow From operating Activities(A)	Net cash flow From investing Activities(B)	Net cash flow From financing Activities(C)	Net increase/ Decrease in cash (A+B+C)
2064/65	-16,360,876	-44591375	-77,457,442	-138,409,693
2065/66	326,633,766	-220273481	-197,646,187	-91,285,902
2066/67	81,601,786	-97038091	-92,563,430	-107,999,735
2067/68	76,886,819	-138999255	-127,873,221	-189,985,657
2068/69	102,279,192	-81790386	257,406,026	277,894,832

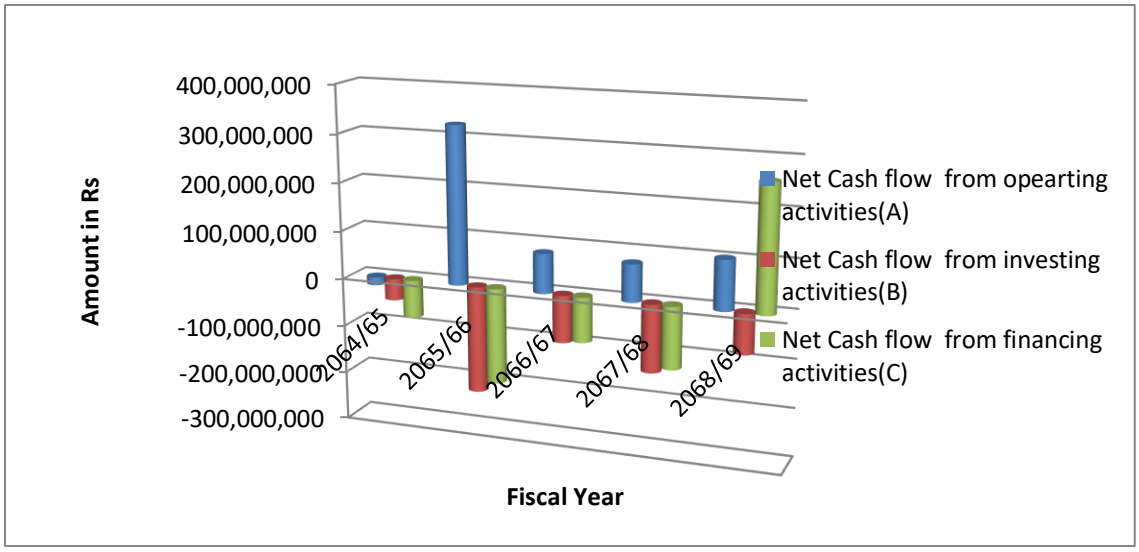
Sources: *Annual Report of BPC (2064/65 to 2068/69)*

On the table: 8, first column represents fiscal year, mid three column shows the amount of cash flow in Rs. Some of these amounts are in negative sign which

represents cash outflow and the amounts represent cash inflow. Last column is the net amount of cash flow which is the result of sum of mid three columns' amount.

The cash from operation during the period are all positive except 2064/65 with fluctuation. This concludes the BPC is in good situation on its operation. On the other hand the cash flow on investing activities elucidate the company is in expansion through increasing its investment. The investment cash flow shows the BPC is in expansion continuously. The cash flow of financing activities is in also negative except 2068/69. It arises mainly due to its dividend paid to shareholder. The combined cash flow of BPC is shown below through bar graph clearly.

Figure 5: Cash Flow Diagram



The above bar diagram presents the total cash flow during different fiscal year from different cash flow heading. From the diagram, cash flow from operating activities is fluctuation every year. Cash flow from investing and financing activities are in negative except in 2068/69 which has been being main sector for the use of cash.

4.5. Cash Position Analysis

Cash is the blood for every organization that should be use in productive manner. Actually the every activities of an organization are measured in term of cash. It means cash is the main input source of every business. Fair and regular inflow and out flow of cash represents strengths and opportunities for business succession through minimizing weakness and threats. There need adequate cash balance for every organization to run its activities smoothly. The amount of required cash balance will be change according as the size, condition, organizational age and other environmental variables. Organization should be effective in cash management. Cash should be kept in organization as the requirement of cash for daily and coming plan of the organization and the excess amount of cash should be use in business expansion or other business growth related activities which create maximum value of cash. There need not to be excess cash in hand without its plan for use. So, cash management is a one of strategic management tools. Cash flow is ongoing or day to day activities of every organization. Here is going to be analyzed yearly cash flow with the help of annual report. The beginning cash balance, net cash flow during the fiscal year and the ending balance of cash are show below.

Table 9
Net Cash Position of BPC

Fiscal year	Cash at Beginning	Net cash flow (A+B+C)	Foreign exchange Gain/loss	Cash at the end
2064/65	367,088,461	-138,409,693	-18,217,263	210,461,505
2065/66	228,678,768	-91,285,902	-30,809,400	106,583,466
2066/67	137,392,866	-107,999,735	3,651,236	33,044,367
2067/68	234,887,883	-189,985,657	4,283,426	49,185,652
2068/69	44,902,225	277,894,832	-8,769,975	314,027,082

Sources: *Annual Report of BPC (2064/65 to 2068/69)*

Table: 9 is prepared to show the yearly beginning cash balance of cash, net cash flow from different (operating, investing and financing) activities and foreign

exchange gain/loss and their result on cash balance at end. On the above table, beginning cash balance for every fiscal year is positive, net cash flow for the respective year all negative excluding on F/Y2068/69. Foreign exchange is being loss and gain both for different period. Cash at end for the period is positive for all fiscal year. But the amount is on fluctuating. Cash balance at end trend line is shown below on figure: 6. Descriptive statistics table: 10 is also prepared to analyze the cash position of BPC.

Figure 6: Cash at End Trend Line

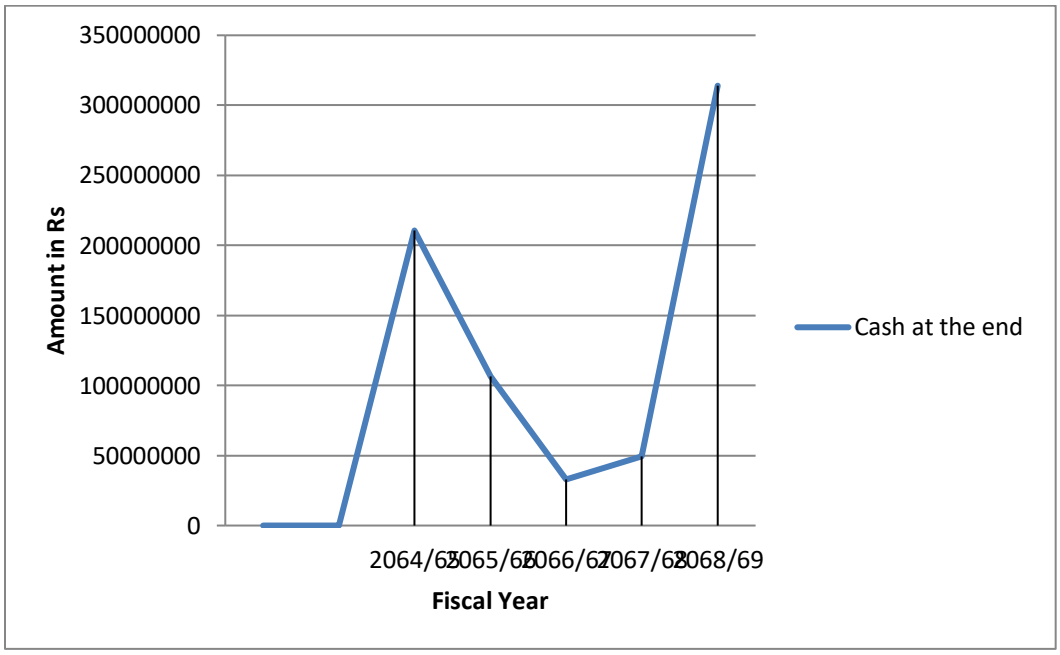


Figure 7: Cash at Beginning Trend Line

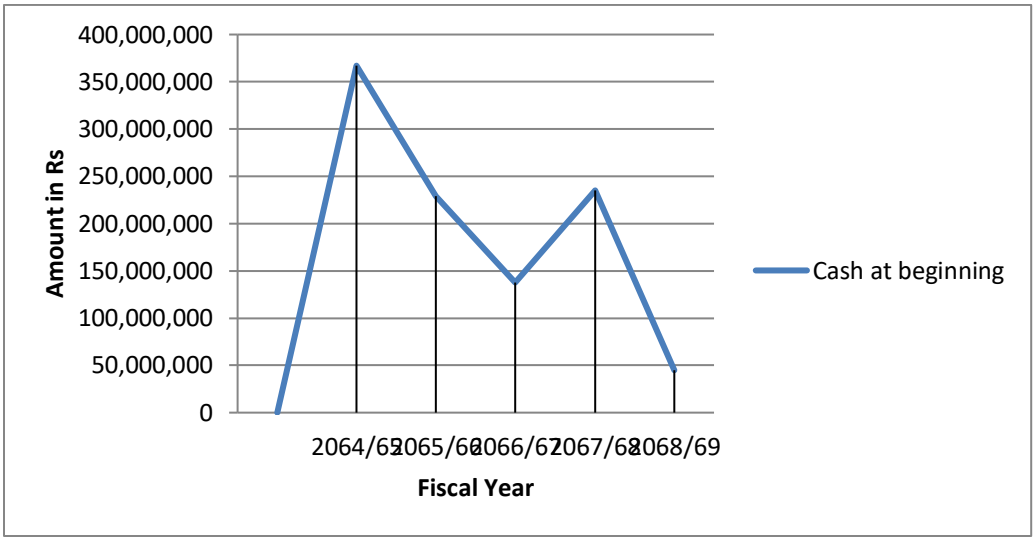


Table 10

Descriptive Statistics of Net Cash Position of BPCL

	Cash at Beginning	Net cash flow (A+B+C)	Foreign exchange Gain/loss	Cash at the end
Maximum	367,088,461	277,894,832	4,283,426	314,027,082
Minimum	44,902,225	-189,985,657	-30,809,400	33,044,367
Average	202,590,041	-49,957,231	-9,972,395	142,660,414
Standard Deviation	120311701	187080039.5	14936835.3	118340903.7

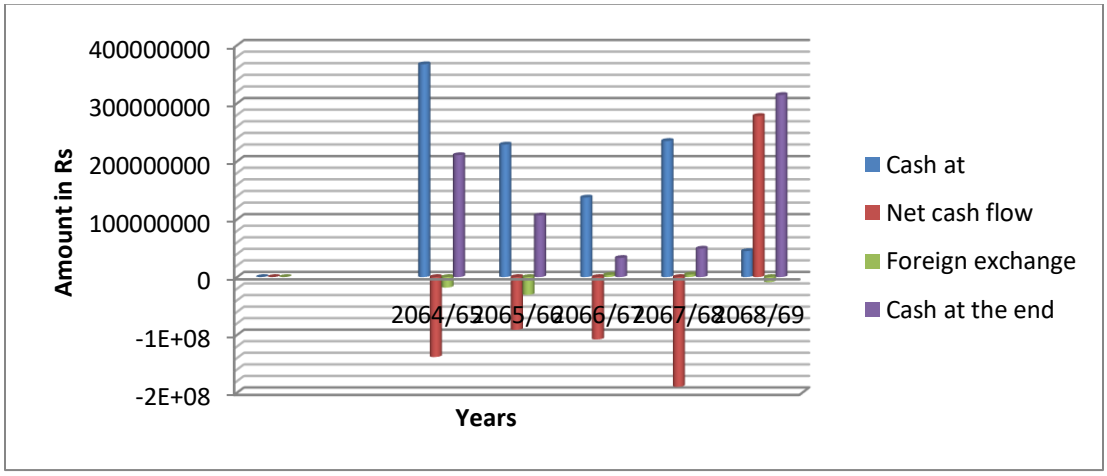
Sources: *Annual Report of BPC (2064/65 to 2068/69) And Excel Formula.*

From table:10, the maximum beginning cash balance for the study period is rs 367,088,461 on F/Y 2064/65, maximum net cash flow is Rs 277,894,832 on F/Y. 2068/69, the maximum foreign exchange gain is Rs 4,283,426 on 2067/68 and the maximum cash balance at the end is Rs 314,027,082 on F/Y. 2068/69. The minimum value of beginning cash balance is Rs 44,902,225 on F/Y. 2058/59,

minimum net cash flow is Rs -189,985,657on F/Y.2061/62, maximum foreign exchange loss is Rs -30,809,400 on F/Y. 2065/66 and the minimum cash balance at the end is Rs 33,044,367on F/Y. 2066/67. Average value of cash at beginning, net cash flow, foreign exchange gain or loss and cash balance at the end is Rs 202,590,041, Rs -49,957,231, Rs -9,972,395 and Rs 142,660,414 respectively. These average shows the foreign exchange is in negative. Standard deviation for the study period of cash at beginning, net cash flow, foreign exchange gain/loss and cash at the end are Rs 120311701, Rs 187080039.5, Rs 14936835.3 and Rs 118340903.7 respectively. The bar diagram on figure: 8 show the picture of cash at beginning, net cash flow and cash balance at the end of fiscal year

Figure 8

Cash Position of BPC



4.6. Statistical Description of NPBT, CFOA, CIA and CFFA

The cash flow is determined with the aggregated impact of cash from operating activities (CFOA), cash from investing activities (CFIA) and cash from financing activities (CFFA). CFOA is obtained after the adjustment of non operating income and expenses and working capital over net profit before tax (NPBT). The individual analysis of all these heading have already done above. To reach in conclusion of the actual trend and situation there need to be analyzed the available

data through use of statistical tools. Available data related with NPBT, CFOA, CFIA and CFFA are tabulated below on table: 11 and th e statistical analysis result of these data are tabulated on table: 12.

Table 11

NPBT, CFOA, CFIA and CFFA

Fiscal Year	Net profit before Tax (NPBT)	Net cash flow from Operating activities (CFOA)	Net cash flow From investing Activities (CFIA)	Net cash flow from Financing activities (CFFA)
2064/65	353,879,380	-16,360,876	-44591375	-77,457,442
2065/66	313,498,381	326,633,766	-220273481	-197,646,187
2066/67	254,897,024	81,601,786	-97038091	-92,563,430
2067/68	377,038,284	76,886,819	-138999255	-127,873,221
2068/69	552,126,628	102,279,192	-81790386	257,406,026

Sources: *Annual Report of BPC (2064/65 to 2068/69)*

Above table: 11 present the amount of cash flow at the end of fiscal year from different headings during the study period from fiscal year 2064/65 to 2068/69. Positive amount represents cash inflow and the negative amount represents cash outflow. Descriptions about all headings are completed already above. So, statistical analyses on above data have been prepared below on table: 12

Table 12

Descriptive Statistics of NPBT, CFOA, CFIA and CFFA

Fiscal Year	Net profit before Tax (NPBT)	Net cash flow from Operating activities (CFOA)	Net cash flow From investing Activities (CFIA)	Net cash flow from Financing activities (CFFA)
Maximum	552,126,628	326,633,766	-44591375	257,406,026
Minimum	254,897,024	-16,360,876	-220273481	-197,646,187
Average	552,126,628	102,279,192	-81,790,386	257,406,026
Standard Deviation	111714182.1	127251001.6	67137020.29	176705614.9

Sources*: Annual Report of BPC (2064/65 to 2068/69) and Excel formula*.

From table: 12 the maximum net profit before tax during the study period is obtained Rs 552,126,628 on F/Y. 2068/69, maximum CFOA is Rs 326,633,766 on F/Y. 2065/66, maximum CFIA is Rs -44591375on F/Y. 2064/65 and the CFFA is Rs 257,406,026 on F/Y. 2068/69. CFIA and CFFA both are in negative means cash is out flowing from these headings.

The minimum net profit before tax during the study period is obtained Rs 254,897,024 on F/Y. 2064/65, minimum CFOA is Rs -16,360,876 on F/Y. 2064/65, minimum CFIA is Rs -220273481 on F/Y. 2067/68 and the CFFA is Rs -197,646,187 on F/Y. 2067/68. CFIA and CFFA both are in highly negative means cash is out flowing from these headings.

The average of NPBT, CFOA, CFIA and CFFA are: Rs 552,126,628, Rs 102,279,192, Rs -81,790,386, and Rs 257,406,026respectively. The standard deviation for the period of NPBT, CFOA, CFIA and CFFA are: Rs 111714182.1, Rs 127251001.6, Rs 67137020.29, and Rs 176705614.9 respectively.

4.7. Correlation Analysis

Correlation analysis is the statistical tool that we use to describe the degree to which one variable is linearly related to other variables. Two or more variables are said to be correlated if change in the value of one variable appears to be related or linked with the change in the other variables. It refers the closeness of the relationship between two or more variables. Correlation says just degree of relationship between two or more variables. Here is going use simple correlation to determine the relationship between BPBT, CFOA, CFIA and CFFA. During the study period by using the available data related with these variables, determined simple correlations are presented below on table: 13.

Table 13

Pearson Correlations Coefficient between Any Two of NPBT, CFOA, CFIA and CFFA

	NPBT	CFOA	CFIA	CFFA
NPBT	1	-0.150884	0.28757	0.875349
CFOA	-0.150884	1	-0.925939	-0.301873
CFIA	0.28757	-0.925939	1	0.525593
CFFA	0.875349	-0.301873	0.525593	1

Sources: *Annual Report of BPC (2064/65 to 2068/69) and Appendix*

Table 13 presents the Pearson's correlation coefficient between NPBT, CFOA, CFIA and CFFA. This table is prepared through use of Pearson's statistical tools for calculating correlation coefficient and available data. The results obtained after calculation are presented in above. Form above table correlation coefficient between NPBT and CFOA is -0.150884.this show NPBT and CFOA are negative correlated and result makes conclusion that if NPBT is increasing or inflowing then CFOA is decreasing or outflow. The correlation coefficient between NPBT and CFIT is 0.28757 (positive). This result makes conclusion that if NPBT is increasing or inflowing then CFFA is increasing or inflow. The correlation coefficient between NPBT and CFFA is 0.875349, also in positive represents there are also positive correlation between those variables. The correlation coefficient between CFOA and CFIA is -0.925939 (highly negative) represents negative correlation between those variables. The correlation coefficient between CFOA and CFFA is -0.301873 also negative. Correlation coefficient between CFFA and CFIA is 0.525593 represent positive correlated.

4.8 Different Cash Flows Ratios

Table 14

Different Cash Flows Ratios

Year	64/65	65/66	66/67	67/68	68/69
OCFA/ICFA	-0.366906739	-1.482855605	-0.8409253	-0.55314555	-1.25050384
FCFA/ICFA	1.737049867	0.897276359	0.953887582	0.919956161	-3.14714282
OCFA/SALE	-0.03662349	0.693948779	0.170071316	0.133974139	0.1690148

Source: *Appendix III*

Cash Flow from Operation Activity to Cash Flow from Investing Activity

In the above calculation show that only in two years(2065/66 & 2068/69) this ratio is greater than one which represent good condition of cash from operation to meet company's investment but in other year it is lower than one this shows company must bring cash from financing activity.

Cash Flow from Financing Activity to Cash Flow from Investing Activity

In the above calculation show higher ratio in 2064/65 & 2068/69, which shows that the company is collecting heavy amount from financing activities but in other fiscal year company collect few fund from financing activities.

Cash Flow Margin Ratio

In the above calculation show that only in 2065/66 this ratio is higher than other periods. Higher net cash flow margin ratio is preferred. In this condition in other period except 2065/66 cash flow margin is too low.

4.9 Major Findings

- NPBT is strong in every year but net changes in cash & cash equivalent are negative for first four years because of the company is investing huge amount in fixed assets and paying dividend to its shareholders.

• operating profit before adjustment of working capital is in positive growth for every year except 2066/679 (i.e. Rs 237364857, Rs 257922114, Rs 212122807, Rs 295099905, Rs 296813599)

• Rate of operating cash flow of BPC is in decreasing and its annual decrease is Rs -691431.2.

• BPC expanding its investment at the rate of Rs 1400408.8 per year is a major cause of cash outflow for each year during the study period.

• There is not any sale of investment on every year.

• BPC has made huge amount of dividend paid is the major cause of cash outflow for these study periods.

• There are receipts from long term debt on F/Y. 2065/66 to 2068/69.

• Regular financing activities of BPC are long term debt receipt/payment, dividend payment, and grant aids receive.

• Annual cash inflow rate from financing activities is Rs 73949990.2.

• Net changes in cash & cash equivalents are negative every year except on F/Y. 2068/69.

• Average cash inflow during the study period is Rs -49,957,231.

• There is loss on foreign exchange in the average of Rs -9,972,395.

• Net cash flow is also in fluctuation.

- Average cash at beginning and ending are Rs 202,590,041 and Rs 142,660,414 respectively

- the average NPBT, CFOA, CFIA and CFFA are Rs 552,126,628 , Rs 102,279,192, Rs -81,790,386 and Rs 257,406,026 respectively.

- The standard deviation of NPBT, CFOA, CFIA and CFFA are Rs 111714182.1, Rs 127251001.6, Rs 67137020.29 and Rs 176705614.9respectively.

- There is positive correlation between CFIA and NPBT, CFFA and NPBT.

- There is negative correlation between NPBT and CFOA, CFOA and CFIA, CFOA and CFFA.

- In overall Different ratios of cash flows are shows good position of the company(i.e. CFOA to CFIA are lies between 3.14 & 1.73 like this cash flow margin lies between 0.69 to 0.03)

- There is not scarcity of cash during the period to operate its general activities.

- Over all activities are satisfactory.

CHAPTER-V

SUMMARY, CONCLUSIONS AND RECOMMEDATIONS

5.1 Summary

This study tried to outline the clear cash flow situation and the usefulness of these cash flow of BPC through the utilization of different accounting, financial and statistical tools. For this, based on research strategy made on research methodology chapter, available and collected data are presented on presentation chapter. The BPC is a manufacturing organization. It is using indirect method of cash flow statement. According to the analysis made on chapter four based on the objective of cash flow analysis, the BPC is in good situation on its cash management because cash flow analysis shows the cash availability is adequate on the base of ending cash balance. Cash inflow is not satisfactory from operating activities. The available cash is utilized on financing and investing activities.

The trend of cash flow from CFOA, CFIA and CFFA are fluctuating trend. The reason for fluctuation is emergence of different activities during the period. The financial data of BPC shows there are greatest possibilities of business growth. It is providing a large amount of dividend to its shareholders. The net cash generation for the period of different fiscal year is not also satisfactory except for the F/Y. 2068/69. Cash balance is adequate to perform its needed activities. Since

its cash inflow from operating activities is negative but opening cash balance is adequate, the investment is also increasing due to highly positive correlation between NPBT and CFIA, CFFA and CFIA. That may not be the best capital structure for BPC because there should be done leverage analysis to decide capital structure. It is paying dividend to its shareholder in satisfactory manner. It is earning its profit satisfactorily through providing its services to general public are the cause for increasing goodwill. That means the BPC is in well management including cash management. It has not facing any difficulties during the study period. All the source and use of cash is satisfactory but the fluctuation is risky for the BPC because there may be excess and scarcity of cash to meet the fluctuation. Both are disadvantageous. All the trend of cash from operating activities, cash from investing activities and cash from financing activities are in growing trend and good correlation between them seems well management of cash. But the growth may be in danger due to high standard deviations. Working capital adjustment is not proper because of fluctuation. Increase in investment, loan repayment and payment are regular for every year. That shows the BPC has adequate resources to meet its financial and investing requirements. There is not any plan to hold the cash balance at the end. Dividend payment is made every year since F/Y. 2064/65 which creates good perception on shareholder. As a whole, the performance of BPC is well in terms of analysis of cash flow during the study period.

5.2. Conclusion

The analysis of cash flows statement of BPC concludes that the operation of BPC is in satisfactory because result obtained through analysis is satisfactory. The operating profit is fluctuating every year but strong positive is the result of increment of cash from operating activities. The operating cash flow is the major source for business activities and it is also a costless source of cash for other financial and investing activities. Therefore, BPC is in growing situation and it is

performing adequately. Its financial and investing transaction is also increasing with good correlation. In aggregate the overall performance of BPC is being better on the study period. But now day's cash flow statement is being mandatory to submit for annual report and cash flow is being a key financial indicator to analyze the strength and weakness of the firm. Only profit making on accrual basis doesn't not provide the real figure of the firm so income should be treated on cash basis according to the NRB directive for financial institution. If profit is negative but cash flow is positive then stakeholder believes to that institution. So cash flow analysis is necessary. By analyzing the five –year cash flow statement following conclusion are found and recommend for improvement.

• Cash is the basic input needed to keep the operations of the business going on a continuing basis: it is also the final output expected to be realized by rendering the services sector business.

• Sometimes, it so happens that a business unit earns sufficient profit, but in spite of, is not able to pay its liabilities when they become due. The analysis of cash flows statement helps to conclude that the normal business operation of the BPC were satisfactory. As per the company act 2063, this company prepare the other financial statements i.e. Profit and loss a/c, balance sheet etc. On cash basis similarly; the volume of transactions of this company was greatly affected by economic activities of the economy. Effective cash management objectives implies a proper balancing between the two conflicting case of liquidity and profitability. So this power company couldn't threaten the liquidity and solvency position.

• In order to find out the true figure of any financial institution from operations, accounting methods and practices should be uniform and systematic. However this company has taken into considerations that the new format of cash flows statement prescribed by NRB for commercial

companies/ financial institutions was reliable format to calculate the CFOA, CFIA and CFFA.

• Selective company has good performance in the competitive market. Because of the conflict of the entire economic sector had affected. However, company has trying to serve their customer .BPCl has great network and customers that's why activities have also large against other company . But an analysis shows that cash flow from operating activities of BPC is not lager than other companies in other hand NPBT is greater than others .

• BPC is operating in high amount operating profit. They are paying tax revenue to the government and facilitating country by providing electricity and latest companying services in this competitive environment. Profit and loss a/c and balance sheet of this company is strong.

5.3. Recommendation

Cash flow is the tool for cash management. Although the result obtained from the analysis is good in aggregate, there will be better to take some corrective actions to attain more efficient and effective result. The some suggestions to improve cash flow for the future are as below:

1. Capital structure analysis should be developed in such a way by which cost of capital will be minimized.

2. It will be better to determine required cash balance to operate regular activities.

3. It will be better to assess working capital requirement according to the business expansion strategies.

4. Future contingencies and selective cash need should be estimated properly.

5. Excess cash should be invested in short term liquid assets that can be converted into cash as per the requirements.

6. Least cost source of cash should be fined when there exist the needs of cash.

7. Past trend in different headings of cash flow should be analyzed to make future plans to handle cash in effective way.

8. Time value of cash should also consider for effective cash management.

9. Priority should be given to soft credit or cheap sources of cash if there is cash need.

10. There should make strategic plan to manage working capital because the cause for fluctuation of CFOA is fluctuation on working capital.

11. Accounting record should be kept updated.

12. Investing activities should be planed because the need of cash can be managed at least cost, if so happens.

13. Regular payment of dividend should be made to keep balanced cash at end.

14. Adequate cash should be kept in hand or as liquid assets to handle yearly cash flow s requirement which will help to maintain the goodwill of BPC.

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Appendix: I

Calculation of Correlation:

Correlation between NPBT and CFOA

Year	NPBT (X)	CFOA(Y)	X^2	Y^2	Xy
2064/65	353.879	-16.361	125230.6156	267.6782635	-5789.776655
2065/66	313.498	326.634	98281.23489	106689.6171	102399.1568
2066/67	254.897	81.602	64972.49284	6658.851478	20800.0524
2067/68	377.038	76.887	142157.8676	5911.582936	28989.2743
2068/69	552.127	102.279	304843.8133	10461.03312	56471.06539
N=5	$\sum x$=1,851.440	$\sum y$=571.041	$\sum x^2$=735,486.024	$\sum y^2$=129,988.763	$\sum x$ y=202,869.772

Sources: annual report of BPC (2064/65 to 2068/69)

Now,

$$\text{Correlation (r)} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \times \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5*202,869.772-(1,851.440*571.041)}{\sqrt{5*735,486.024-1,851.440^2} * \sqrt{5*129,988.763-571.041^2}}$$

$$= -0.150884$$

Correlation between NPBT and CFFA

Year	NPBT (X)	CFFA(Y)	X^2	Y^2	Xy
2064/65	353.879	-77.457	125230.6156	5999.655321	-27410.59155
2065/66	313.498	-197.646	98281.23489	39064.01524	-61961.75964
2066/67	254.897	-92.563	64972.49284	8567.988573	-23594.14284
2067/68	377.038	-127.873	142157.8676	16351.56065	-48213.09982
2068/69	552.127	257.406	304843.8133	66257.86222	142120.7212
n=5	$\sum x$=1,851.440	$\sum y$=-238.134	$\sum x^2$=735,486.024	$\sum y^2$=136,241.082	$\sum x$ y=-19,058.873

Sources: annual report of BPC (2064/65 to 2068/69)

Now,

$$\text{Correlation (r)} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \times \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5*-19{,}058.873-(1{,}851.440*-238.134)}{\sqrt{5*735{,}486.024-1{,}851.440^2} * \sqrt{5*136{,}241.082--238.134^2}}$$

= 0.875349

Correlation between NPBT and CFIA

Year	NPBT (X)	CFIA(Y)	X^2	Y^2	Xy
2064/65	353.879	-445.914	125230.6156	198839.0724	-157799.6814
2065/66	313.498	-2,202.735	98281.23489	4852040.643	-690553.7967
2066/67	254.897	-970.381	64972.49284	941639.1105	-247347.2061
2067/68	377.038	-1,389.993	142157.8676	1932079.289	-524080.4058
2068/69	552.127	-817.904	304843.8133	668966.7242	-451586.5002
n=5	∑x=1,851.440	∑y=-5,826.926	$\sum x^2$=735,486.024	$\sum y^2$=8,593,564.839	∑x y=-451,586.500

Sources: annual report of BPC (2064/65 to 2068/69)

Now,

$$\text{Correlation (r)} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \times \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5*-451{,}586.500-(1{,}851.440*-5{,}826.926)}{\sqrt{5*735{,}486.024-1{,}851.440^2} * \sqrt{5*8{,}593{,}564.839--5{,}826.926^2}}$$

= 0.28757

Correlation between CFIA and CFOA

Year	CFIA (X)	CFOA(Y)	X^2	Y^2	XY
2064/65	-44.591	-16.361	1988.390724	267.6782635	729.553957
2065/66	-220.273	326.634	48520.40643	106689.6171	-71948.75665
2066/67	-97.038	81.602	9416.391105	6658.851478	-7918.481536
2067/68	-138.999	76.887	19320.79289	5911.582936	-10687.21056
2068/69	-81.790	102.279	6689.667242	10461.03312	-8365.454593
n=5	∑x=-582.693	∑y=571.041	85,935.648	129,988.763	-98,190.349

Sources: annual report of BPC (2064/65 to 2068/69)

Now,

$$\text{Correlation (r)} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \times \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5*-98,190.349-(-582.693*571.041)}{\sqrt{5*85,935.648--582.693^2} * \sqrt{5*129,988.763-571.041^2}}$$

$$= -0.925939$$

Correlation between CFIA and CFFA

Year	CFIA (X)	CFFA(Y)	X^2	Y^2	XY
2064/65	-44.591	-77.457	1988.390724	5999.655321	3453.933843
2065/66	-220.273	-197.646	48520.40643	39064.01524	43536.21362
2066/67	-97.038	-92.563	9416.391105	8567.988573	8982.178544
2067/68	-138.999	-127.873	19320.79289	16351.56065	17774.28245
2068/69	-81.790	257.406	6689.667242	66257.86222	-21053.33823
n=5	∑x=-582.693	∑y=-238.134	$\sum x^2$=85,935.648	$\sum y^2$=136,241.082	∑x y=52,693.270

Sources: annual report of BPC (2064/65 to 2068/69) Now,

$$\text{Correlation (r)} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \times \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5*52{,}693.270-(-582.693*-238.134)}{\sqrt{5*85{,}935.648--582.693^2} * \sqrt{5*136{,}241.082--238.134^2}}$$

= 0.525593

Correlation between CFFA and CFOA

Year	CFFA (X)	CFOA(Y)	X^2	Y^2	XY
2064/65	-77.457	-16.361	5999.655321	267.6782635	1267.271604
2065/66	-197.646	326.634	39064.01524	106689.6171	-64557.9184
2066/67	-92.563	81.602	8567.988573	6658.851478	-7553.341206
2067/68	-127.873	76.887	16351.56065	5911.582936	-9831.765198
2068/69	257.406	102.279	66257.86222	10461.03312	26327.28036
n=5	∑x=-238.134	∑y=571.041	$\sum x^2$=136,241.082	$\sum y^2$=129,988.763	∑x y=-54,348.473

Sources: annual report of BPC (2064/65 to 2068/69)

Now,

$$\text{Correlation (r)} = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \times \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5*-54{,}348.473-(-238.134*571.041)}{\sqrt{5*136{,}241.082--238.134^2} * \sqrt{5*129{,}988.763-571.041^2}}$$

= 0.301873

Appendix-II

Calculation of Trend Analysis of Different Cash Flows

To analyze the trend of forecasting sales, straight line trend by least square method is going to be fitted. For this, let us assume that the fiscal year be X and the forecasted sales be Y.

Let the straight line trend be

Y=a +b x……. (I)

Fitting Of Trend Line by Least Square Spreadsheet Cash from Operating Activities:

Fitting of trend line by least square method				
Year(x)	Cash from operating activities y in rs	X=x-2066/67	x^2	xY
2064/65	-16,360,876	-2	4	32721752
2065/66	326,633,766	-1	1	-326633766
2066/67	81,601,786	0	0	0
2067/68	76,886,819	1	1	76886819
2068/69	102,279,192	2	4	204558384
n=5	∑y=571040687	∑x=0	$\sum x^2$=10	∑xY= -6914312

Sources: annual report of BPC (2064/65 to 2068/69)

Since ∑x=0, so a=$\frac{\sum Y}{N}$ =$\frac{571040687}{5}$ = 114208137.4

b=$\frac{\sum xY}{\sum x^2}$ =$\frac{-6914312}{10}$ = -691431.2

Substituting the value of a and b in (i), the equation of the trend line is

$$Y_c = 114208137.4 + -691431.2\ x$$

For the estimation in 2069/70

X=2069/70

I.e. x= (2069/70-2066/67) =3 & so on.

∴ Expect sales units in 2069/70 (Y) = 114208137.4+ -691431.2 * 3 = 112133843.8

In 2070/71 =114208137.4+ -691431.2 *4 = 111442412.6

In 2071/72=114208137.4+ -691431.2 * 5 =110750981.4

In 2072/73=114208137.4+ -691431.2 * 6 =110059550.2

In 2073/74=114208137.4+ -691431.2 * 7 = 109368119

Fitting Of Trend Line by Least Square Spreadsheet Cash from Investing Activities:

Fitting of trend line by least square method of investing act				
Year(x)	Cash from investing (y)	X=x-2066/67	x^2	xY
2064/65	-44591375	-2	4	89182750
2065/66	-220273481	-1	1	220273481
2066/67	-97038091	0	0	0
2067/68	-138999255	1	1	-138999255
2068/69	-81790386	2	4	-163580772
N=5	∑y=-582,692,588	∑x=0	$\sum x^2$=10	∑xY= 14004088

Sources: annual report of BPC (2064/65 to 2068/69)

Since ∑x=0, so a=$\frac{\sum Y}{N}$ =$\frac{-582692588}{5}$ = -116538517.6

$$b=\frac{\sum xY}{\sum x^2}=\frac{14004088}{10} = 1400408.8$$

Substituting the value of a and b in (i), the equation of the trend line is

$$y_c = -116538517.6 + 1400408.8\ x$$

For the estimation in 2069/70

X=2069/70

I.e. x= (2069/70-2066/67) =3 & so on.

∴ Expect sales units in 2069/70 (Y) = -116538517.6+ 1400408.8 * 3 = -112337291.2

In 2070/71 =-116538517.6+ 1400408.8 *4 = -110936882.4

In 2071/72=-116538517.6+ 1400408.8 * 5 =-109536473.6

In 2072/73=-116538517.6+ 1400408.8 * 6 =-108136064.8

In 2073/74= -116538517.6+ 1400408.8 * 7 =-106735656

Fitting Of Trend Line by Least Square Spreadsheet Cash from Financing Activities:

Fitting of trend line by least square method of investing activities				
Year(x)	Cash from financing (y)	X=x-2066/67	X^2	Xy
2064/65	-77,457,442	-2	4	154914884
2065/66	-197,646,187	-1	1	197646187
2066/67	-92,563,430	0	0	0
2067/68	-127,873,221	1	1	-127873221
2068/69	257,406,026	2	4	514812052
N=5	∑y=-238,134,254	∑x=0	$\sum x^2=10$	∑xY= 739,499,902

Sources: annual report of BPC (2064/65 to 2068/69)

Since ∑x=0, so $a=\frac{\sum Y}{N}=\frac{-238,134,254}{5}$ = -47626850.8

$$b=\frac{\sum xY}{\sum x^2}=\frac{739,499,902}{10} = 73949990.2$$

Substituting the value of a and b in (i), the equation of the trend line is

$$Y_c = -47626850.8 + 73949990.2\ x$$

For the estimation in 2069/70

X=2069/70

I.e. x= (2069/70-2066/67) =3 & so on.

∴ Expect sales units in 2069/70 (Y) = -47626850.8+ 73949990.2 * 3 = 174223119.8

In 2070/71 = -47626850.8+ 73949990.2 *4 = 248173110

In 2071/72= -47626850.8+ 73949990.2 * 5 =369749951

In 2072/73= -47626850.8+ 73949990.2 * 6 =443699941.2

In 2073/74= -47626850.8+ 73949990.2 * 7 =517649931.4

Appendix-III

Cash Flow from Operation Activity to Cash Flow from Investing Activity

$$= \frac{\text{Cash Flow from Operating Activity}}{\text{Cash Flow from Investing Activity}}$$

For year 2064/65= $\frac{-16,360,876}{-44,591,375}$= 0.366906739

For year 2065/66= $\frac{326,633,766}{-220,273,481}$= -1.482855605

For year 2066/67= $\frac{81,601,786}{-97,038,091}$= -0.8409253

For year 2067/68= $\frac{76,886,819}{-138,999,255}$= -0.55314555

For year 2068/69= $\frac{102,279,192}{-81,790,386}$= -1.25050384

Cash Flow from Financing Activity to Cash Flow from Investing Activity

$$= \frac{\text{Cash Flow from Financing Activity}}{\text{Cash Flow from Investing Activity}}$$

For year 2064/65= $\frac{-77,457,442}{-44,591,375}$= 1.737049867

For year 2065/66= $\frac{-197,646,187}{-220,273,481}$= 0.897276359

For year 2066/67= $\frac{-92,563,430}{-97,038,091}$= 0.953887582

For year 2067/68= $\frac{-127,873,221}{-138,999,255}$= 0.919956161

For year 2068/69= $\frac{257,406,026}{-81,790,386}$= -3.14714282

Cash Flow Margin Ratio

$$= \frac{\text{Operating Cash Flow}}{Sales}$$

For year 2064/65= $\frac{-16,360,876}{446,731,779}$= -0.03662349

For year 2065/66= $\frac{326,633,766}{470,688,581}$= 0.693948779

For year 2066/67= $\frac{81,601,786}{479,809,224}$= 0.170071316

For year 2067/68= $\frac{76,886,819}{573,892,989}$= 0.133974139

For year 2068/69= $\frac{102,279,192}{605,149,314}$= 0.1690148