

**A STUDY OF CASH MANAGEMENT IN PUBLIC
MANUFACTURING COMPANY
(A Case Study of Bottlers Nepal Limited)**

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RECOMMENDATION

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

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DECLARATION

I hereby declare that the work reported in this thesis entitled "**A STUDY OF CASH MANAGEMENT IN PUBLIC MANUFACTURING COMPANY**" (**A Case Study of Bottlers Nepal Limited**), submitted to office of Dean, faculty of management, Tribhuvan University is my original work done in the form of partial fulfillment of the requirement of Master's Degree in Business Studies (M.B.S.) under the guidance and supervision of Mr. Prakash Singh Pradhan and Mr. Tri Ratna Manandhar, Shanker Dev Campus, Department of Management, Tribhuvan University.

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LIST OF ABBREVIATION

%	:	Percentage
σ^2	:	Variation
ACP	:	Average Collection Period
AM (\bar{x})	:	Arithmetic Mean
AR	:	Account Receivables
B.S	:	Bikram Sambat
BEP	:	Break Even Point
BNL	:	Bottlers Nepal Limited
C.V.	:	Coefficient of Variation
CA	:	Charter Account
CA	:	Current Assets
CAPM	:	Capital Assets Pricing Model
CCC	:	Cash Conversion Cycle
CDM	:	Central Department of Management
CL	:	Current Liabilities
CVP	:	Cost Volume Profit Analysis
DTC	:	Depository Transfer Cheques
EDTC	:	Electronic Depository Transfer Cheques
EOQ	:	Economic Order Quantity
FC	:	Fixed Cost
FY	:	Fiscal Year
g.	:	Gram
ICP	:	Inventory Conversion Period
Kcal.	:	Calcium

Ltd.	:	Limited
MBA	:	Master of Business Administration
MBS	:	Master of Business Studies
ml.	:	Milliliter
No.	:	Number
P.E.	:	Probable Error
PDP	:	Payable Conversion Period
PEs	:	Public Enterprises
r	:	Correlation Coefficient
RCP	:	Receivable Conversion Period
Reg.	:	Registration
S.D. (σ)	:	Standard Deviation
T.U.	:	Tribhuvan University
TA	:	Total Assets
VC	:	Variable Cost
VC	:	Variable Cost

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The Nepalese economy is totally dominated by the agriculture sector. More than 80% of total economically active population of Nepal is involved in agriculture sector. But the agriculture sector has contributed to the total Gross Domestic Production (GDP) 36.1% (2064-065) only and growth rate 3.4% at current price in fiscal year 2066/067. Prospects for overall economic development will be brighter only if the present structure of the economy with pre-dominant dependence on traditional agriculture can be gradually transform through the process of industrialization.

The history of development of Public Enterprise (PE) begins after democracy of 2007 B.S. During Rana regime only handful of PEs existed- Biratnager Jute mills, Nepal Bank Ltd. and Juddha Match factory. Realizing the need of industrialization after 2007 democracy, government established 'Udyog Parisad' to encourage industrialization. After some years it changed name to 'Cottage' and village industry department and have began the development of PEs. In 2048 B.S. the democratic government of Nepal adopted the policy of economic liberation. Now many enterprises are under the process of privatization.

Most of Nepalese Private manufacturing companies are in huge losses or in bankrupts. Bottlers Nepal Limited (BNL) was established in 2037 B.S by the private sector. But after five years, it was converted into public manufacturing company limited at 2042 B.S. It ensures proper supply and distribution of essential consumer items or soft drinking product through out the country. BNL can play on manufacturing activities for all over the country.

The proposed thesis is based on information provided by the company's finance manager. The study emphasized to find out how and when the company progress about the management of cash and what does company do to eliminate such types of poor management of cash and drawbacks and follow the remedies. Therefore, the research

intended to find out the Public Enterprises drawbacks of cash management and to suggest the company. The study will be beneficial to the Bottlers Nepal Limited.

1.2 Introduction of Bottlers Nepal Limited (BNL)

Bottlers Nepal Limited was establishment in 27th Bhadra, 2037 B. S. (August 1980 A.D.) as a Bottlers Nepal Private Limited. After five years it was converted into public company as a Bottlers Nepal Limited. BNL is a Multinational Company. So, The Coca-Cola Sabco (Asia) Ltd, a company incorporated in Dubai, UAE holds 98.8 Percent share of Bottlers Nepal Limited. Only 1.2 Percent share are distributed to common people. It's established several branches in many countries like India, Singapore and Hong Kong etc. The company continues to receive support from the Coca-Cola Export Corporation. The Company also received support from Coca-Cola Sabco (Asia) Limited, the parent on sales in marketing and technical operations.

The concept of globalization is one of the major factors which brought in the concept of multinational company. The multinational company is establishing close relationship between each country in the world. Multinational company is being very importance to poor country like Nepal. It supplies new technology and import huge amount of capital which is must necessary for developing country. Multinational companies have been establishing at several country in the world at present.

Bottlers Nepal Limited continues to maintain its leadership in the soft drink market because of its strong market infrastructure backed up by company's effective sales and promotional plans and consumers' preferences in company's products. The company has already started distributing the product through the Manual Distribution Center (MDC) directly through its wholly owned company Troika Traders (P) Ltd since 1 Jan. 2006. The result of this distribution through the MDCs is very productive.

The irregularities in the distribution has to be corrected through organize supply and delivery system. The company was not only able to maintain quality but also provide different kinds of service to the consumers.

The success of supply management of BNL led to the addition of supply of essential commodities such as Coca-Cola, Fanta, Sprite and processed edible to its distribution net-work. The profit received from trading activities was invested in the production of basic necessities to boost self sufficiency to accelerate economic growth, and gain public and private support.

1.3 Introduction and Purpose of Cash Management

One of the major responsibilities of management is to plan, control and sales guard the resources of the enterprises. Two kinds of resources of many business are cash and non- cash assets. This chapter focuses on the cash planning and control of the cash in (i.e. cash received) and cash out and the related financing is important in all enterprises. The cash budgeting is an effective way to plan and control of the cash how assess cash made and effectively use excess cash" A primary objective is to plan the liquidity position of the company as a basis for determining future borrowings and future investments. For example excess cash is not invested includes an opportunity cost that is loss of the interest. That could be earned in the excess cash. The timing of cash flows can be controlled in many ways by management such as increasing the effectiveness of credit and collection activities, making payment by time draft rather than by cheque, making payment and last day of discount periods batching payments and giving discount on cash sale. Cash management is important in enterprises, whether large on small. Many lending agencies require cash flows projections before granting loan" (Glenn A. Welch. Ronald W. Hilton Paul N. Garden, p. 433).

1.4 Focus of the Study

As stated in the interim plan, the financial situation of the government corporation as a matter of a fact is in very poor shape. Apart from other measure required their performance; public enterprises may be expected to have better prospects with effective cash management.

The focus of the study is on a critical examination of cash management techniques of BNL. The period covered by the study will be five years from 2062/63-2066/67.

1.5 Statement of Research Problem

Cash management refers to the proper management of firm's cash position. It is concerned with all decision and acts that influence the determination of the appropriate level of cash and their efficient use as well as choice of the financing method, keeping in view of liquidity.

The cash and bank balance of a company is that portion of its total current assets which is kept for operative purpose and has the characteristics of greater divisibility liquidity and rapidity of turnover that influence the types and term of financing. Hence, cash management is in itself a decision making area within the framework of the overall current assets management.

Cash management has been the most critical and challenging area of modern corporate finance .Management always faces a trade -off between the liquidity and profitability of the firm. Though most of the enterprises in Nepal have been well recognized the importance of proper cash management, they are still facing the problem of cash management.

Cash management in public enterprise of Nepal is primarily based on the traditional practices. There is lacking of scientific approach. More serious aspect of cash management is lack of any formalize system of planning and cash budgeting in many of enterprise.

Most enterprise had periodic accommodation of surplus cash and corresponding cash shortage from time to time. However none of the enterprise considers the implication of holding idle cash balance and few took in the account the potential benefit of investing surplus in marketable securities. Those which did fail to consider the cost of administration such investment.

Nepalese Public Enterprise usually uses the Current Assets to run their business. According to the Research being carried out in BNL, it seems that there is the problem in the Management of the cash. The main problem faced by the BNL is the proper utilization of the cash through the utilization of the available resources. If we look at the financial position of the BNL it is not encouraging rather it is satisfactory. More efforts are to be made to make the sound financial position of the BNL.

Different types of problems are faced by the researcher while conducting this thesis such as time factor, economic factor, and support from the organization whose study is being carried out for getting the materials etc which are considered as the major problems while doing the research work. Full support and cooperation from the different sector while conducting the thesis work will help to make a good thesis and this will also help the related organization to get remedies for the problems which are being faced by the organization. Research will show the real position of the organization so it should be done properly taking the enough materials required and enough time. Different activities are to be carried out while doing research work so requires money also which is always difficult to face by the researcher itself which is considered as the major problems of the research.

1.6 Objective of the Study

The major objective of the study is to examine the management of cash in BNL. The specific objectives of this study are as follows:

- a. To study of the existing cash management system in BNL.
- b. To critically review the cash management technique practiced by BNL.
- c. To suggest appropriate cash management policy for the future

1.7 Significance or Importance of the Study

This study is concern to the theoretical explanation and practical application of cash management of BNL. Business transactions with out the investment of cash are

mythical in this monetary world. The conflicting interest of that department is bound to create serious problem. The study of cash management is considered as an integrated approach to management science. The idea behind cash management is necessary in maintaining adequate liquid assets whenever and wherever required by the firm. The maintenance of the corporate liquidity therefore consists of determining the volume and timing of cash required by the firm.

Liquidity and technical solvency are two different terms always confused and misused in cash management. A company could be solvent and yet may not have enough cash to meet these current obligations. This is because the solvency of the company is known only after sale of its total assets. The technical solvency therefore does not mean that its current bills can be paid in cash on due date. Hence "liquidity" denotes the capability to meet its current obligation, where as "solvency" is the strength of the enterprise to meet its entire obligation including long-term loans. In conclusion every rupee reduce in the cash balance may contribute to the generation of additional profit.

1.8 Research Methodology

Descriptive research design is used in this study. Analysis of the data is based on the development of various financial and statistical tools. All these are discussed in methodology chapter.

Secondary sources of data are collected through the published annual report of the company, which gives the information from the profit and loss account, balance sheet and income statement. .

1.9 Limitation of the Study

- I. This study is limited to cash management of BNL.
- II. The study covers the period of five years beginning 2062/63-2066/67.
- III. Basically the financial statements provided by BNL Head office at Balaju, Industrial Area are used. They are secondary data.

IV. The researcher could not find adequate material of BNL which are most important for this study.

1.10 Organization of the Study

This study has been organized in five chapters.

The first chapter is the introductory, which deals with background of the study of Bottlers Nepal Limited. It focuses also on the statement of the research problems, objective of the study, significance of the study, research methodology and limitation of the study.

The second chapter deals with the review of the literature relating to cash management i.e. books and thesis. Meaning of the cash management, efficiency of the Cash management, Different techniques of the Cash Management, Cash Management Models, Motives for holding Cash etc are also described in the second chapter.

In the third chapter, the research methodology employed for the study has been described. It includes introduction of research design, data collation and sources, data processing procedure and tabulation, financial tools and techniques, research question and definition of key terms.

The acquired data are presented and analyzed through the way given in methodology in the fourth chapter.

At last, the summary of findings, issue and constraints and some recommendation have been presented in the fifth chapter. A bibliography and appendix have also been included in the last part of the study.

CHAPTER-TWO

REVIEW OF LITERATURE

2.1 Introduction

Review of literature refers to the reviewing of the past studies in the concerned field. Such studies could be thesis/dissertations (that are written earlier) books, articles, journals and any other publications concerning the subject matter, which were written prior by a person or an organization. The purpose of this literature review is to get acquainted with what has been accomplished in the concerned subject matter and what is yet to be studied and for tell worthiness of the study being undertaken.

2.1.1 Meaning of Cash Management

The term “cash” is defined in various ways as per context. For instance, from an economist’s point of view, cash is the means to satisfy human wants, whereas a lawyer states that legal tender of money issued by the government of the state. On the contrary, when it comes to the financial literature, cash is defined in yet another fashion from earlier definitions.

The term ‘cash management’ is concerned with the management of current assets and current liabilities of the business, which is necessary for day to day operation. “Cash management is concerned with the decision regarding the short-term funds influencing, overall profitability and risk involving in the firm. The Management of cash has been regarded as one of the conditioning factors in the decision-making issues”¹ It Is no doubt, very difficult to point out as to how much cash is needed by a particular company, but it is very essential to analyze and find out the solution to make an efficient use of funds for maximizing the risk of loss to attain profit objectives.

Cash is the money, which the firm can disburse immediately without any restriction. The term cash with references to cash management is used in two senses. In a narrow

¹ Saksena, 1974 p.31.

sense it is used broadly to cover cash currency and generally accepted equivalents of cash such as cheques drafts and demand deposit in bank. The broader view of cash also includes near cash assets, such as, marketable securities and time deposits in bank. “Cash is both the beginning and end of the working capital cycle as Inventories, receivables and cash. Cash like the blood stream in the human body gives vitality and strength to a business enterprise. The steady and healthy circulation of cash through out the entire business operation is the business solvency”² According to J. M. Keynes “it is cash, which keeps a business going. Hence, every enterprise has to hold necessary cash for its existence. In a business firm ultimately, a transaction results in either an inflow or an outflow of cash. In an efficient managed business, static cash balance situation generally does not exist. Adequate supply of cash is necessary to meet the requirement of the business. Its shortage may stop the requirement of the business. Its shortage may stop the business operations and may degenerate a firm into a state of technical insolvency and even of liquidation. Through idle cash is sterile; its retention is not without cost. Holding of cash balance has an implicit cost in the form of its opportunity costs.”³ If cash holding is bad for inefficient corporations, cash shortage is dangerous for efficient corporations. As for inefficient corporations it does not matter whether cash increases or decrease if they are not in a position to utilize them. But efficient corporations due to undertaking of more operations need more cash besides having profit. Therefore, for its smooth running and maximum profitability, Proper and effective cost management in a business is of paramount importance.

2.1.2 Efficiency of Cash Management

Cash performs a number of functions as it makes payment possible and serves to meet emergencies. “The financial managers of the corporations should try to minimize the corporation holdings of cash while still maintaining enough to insure payment of obligations. For improving the efficiency of cash management, effective methods of collection and disbursement should be adopted”⁴ .(Manohar Krishna,

² P. Kent, 1964, p. 123

³ J. M. Keynes, 1985,p.178

⁴ Manohar Krishna, 1980

1980). Then the knowledge of some methods is necessary to ensure their usefulness in course of time as corporate manager become more conscious to adopt these methods. Some methods are discussed below (Manohar Krishna, 1980).

i) Speedy Collections of Cash

One method of optimum cash management is to speed collection of usable cash from customer's payments of receivables. Reducing the lag for gap between the times a customer pays his bill can accelerate cash collection and the time the cheque is collected and funds become available for use. Within this time gap, the delay is caused by the mailing time. The amount of cheques sent by customers but not yet collected are called deposit float. The greater the deposit floats, the longer time taken in converting cheques into usable funds. There are mainly two techniques, which can be used to save mailing and processing time concentration banking and lock box system.

ii) Concentration Banking

The establishment of a strategic collection centre also helps the corporation to fasten the time when the customer pays the bill and the time when the corporations have the use of funds. In this system, the firm will have a large number of bank accounts in the area where the firm has its branches. All branches may not have the collection centers. The collection centers will be required to collect cheques from customers and deposit them in their local bank accounts. The collection centre will transfer funds above some predetermined minimum to control generally at the firms head office, each day. A concentration bank is one where the firm has major bank account usually the disbursement.

iii) Slowing Disbursement

The general policy of every corporation is to collect sundry debtors and accounts receivables as quickly as possible but while making payments to sundry creditors and account payables it wants to pay as slowly as possible. It may be recalled that a basic strategy of cash management is to delay payment as long as possible without impairing the credit rating of the firm. In fact, slow disbursement represents a source

of funds requiring no interest payments. There are some techniques to delay payments as avoidance of early payment centralized disbursement, floats and accruable.

iv) Cash Velocity

Efficiency in the use of cash depends upon the cash velocity i.e. level of cash over a period of time.

$$\text{Cash Velocity} = \frac{\text{Annual Sales}}{\text{Average Cash Balance}}$$

v) Synchronized Cash Flows

Situation in which inflow coincides without flows, there by permitting a firm to hold transaction balance to a minimum.

Vi) Over Draft System

A System where by depositors may write cheques in excess of their balances with their banks automatically extend loans to cover the shortage.

Vii) Minimum Cash Balance

Corporations are required to keep a minimum cash balance requirement of a bank either for the service it renders or in consideration of a lending arrangement. In practice the cash balance of the corporations with the bank is higher than cash in hand. It is because corporations always find it safe to keep large funds with bank otherwise it may be mis-utilized or misappropriated it kept in hand.

Viii) Transferring Funds

There are two principle method of transferring funds. They are Wire Transfers and Electronic Depository Transfer Cheque. With a Wire Transfer funds are immediately transferred from one bank to another bank. Electronic Depository Transfer Cheque (DTC) is arrangement in the movement of funds. An electronic cheque image is processed through an automatic clearing house. The funds become available on business day later. For small transfers, a wire transfer may be too costly.

2.1.3 Different Techniques of Cash management

i. Cash Planning

The forecasts may be based on the present operation or anticipated future operation. Cash planning can help anticipate future cash flows and needs of the firm and reduces the possibility of idle cash balance and cash deficits. Cash plan are very crucial in developing the overall operation plans of the firm. Cash planning may be done on daily, Weekly or monthly basis. It depends upon the size of the firm and philosophy of management. “The cash planning is a technique to plan for and control the use of cash.”

ii. Cash Budget

Cash budgeting is an effective way to plan and control the cash flows, assess cash needs and effectively use excess cash. Cash budget is the most significant device to plan for and control cash receipt and payment. “A Cash budget is a summary statement of the firm expected cash inflows and outflows over a projected time period”⁵. This information helps the financing of these needs and exercise control over the cash and liquidity of the firm.

The time horizon of cash budget may differ from firm. A firm whose business is affected by seasonal variations may prepare monthly cash budget. Daily or weekly cash budget should be prepared for determining cash requirements. Cash flows show extreme fluctuation of cash budget for longer interval may be prepared of cash flows are relatively stable.

iii. Short Term Cash Forecasting

There are two common methods of short term cash forecasting. They are as follows:

a. Cash Receipts and Disbursement Method

This method is also known as direct or cash account method. This method is based on a detailed analysis of the increases and decreases in the budgeted cash account that

⁵ IBID

would reflect all cash inflows and outflows from such budgets as sales, expenses, and capital expenditures. The prime aim of receipt and disbursement forecasts is to summarize these flows during a predetermined period. In case of those companies where cash items of income and expenses involve flow of cash; this method is favored to keep a close control over cash.

b. Financial Accounting Method

This method is also known as indirect or income statement method. The starting point in this method is the planned net income shown in the budgeted net income statements. Basically, planned net income is converted from an accrual basis to a cash basis. Next, the other cash sources and requirements are identified. This method of cash forecasting involves the tracing of working capital flows. Sometime it is also called the sources and uses approach. In preparing the adjusted net income forecasts items such as net income depreciation taxes, dividend etc. can easily be determined from the company annual operating budget.

iv. Long Term Cash Forecasting.

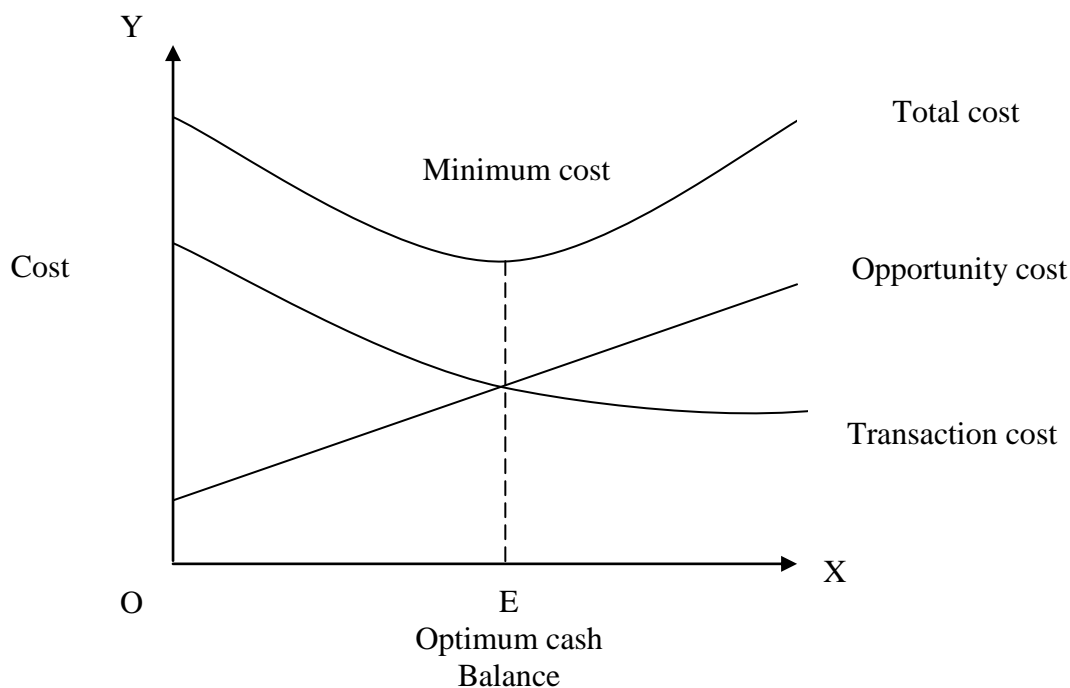
The long term cash forecasting is fundamental to sound financial decision and to optimum use of cash and long term credit. It prepares to give idea of the company's financial requirement of distant future. Once a company has developed long term cash forecast, it can be used to evaluate the impact of new product development on the firm financials condition of three, five or more years in futures. Long Term Forecasting helps for the Company to forecast the Company's future financial need. It especially focuses on the long term working capital requirement, evaluation of the proposed capital for the project to achieve its objectives. Long Term Forecasting also helps in the improvement of the corporate planning for the Long Term.

2.1.4 Determining the optimum cash Balance

The way how corporations manage current assets has an important bearing on the overall liquidity position, and failure to maintain sufficient degree of liquidity caused to stop regular operations besides making corporate managers unable to play obligation in time. The financial managers need to maintain a sound liquidity position of the firm, so that problems may be settled in time. The firm needs cash not only to

purchase raw materials and pay wages but also for payment of dividend, interest, taxes and countless other purpose. The test of liquidity is really the availability of cash to meet the firm obligations when they become due. Thus the cash balance is maintained for transition purpose and an additional amount may be maintained as a safety stock. The financial manger should determine the appropriate amount of cash balance. A trade off between risk and return influences such a decision. If the firm maintains small cash balance, its liquidity position becomes weak and suffers from capacity of cash to make payment. But investing released funds in some profitable opportunities can attain a higher profitability. If the firm maintains a high level of cash balance it will have a sound liquidity position but it has to forego the opportunity to earn interests. Thus the firm should maintain an optimum cash balance. To find out the optimum cash balance the transaction costs should be matched with the opportunity costs. The figure shows this trend graphically.

Figure no: 2.1 Determination of Optimum Cash Balance



Source: Pandey, Financial Management, p.311

2.1.5 Cash Management Models

There are different types of analytical model for cash management.

- i. Baumol Model
- ii. Miller-Orr Model
- iii. Orgeler's Model

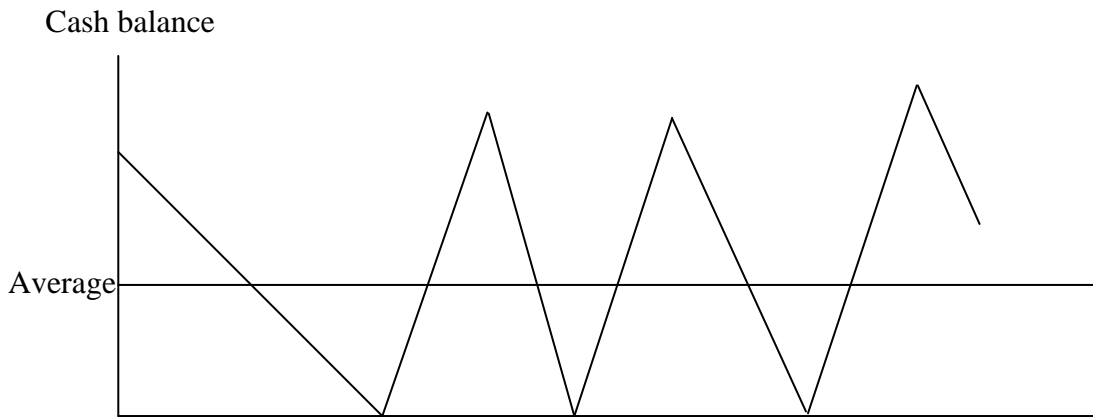
i. Baumol Model: Baumol (1952 p.p. 445-456)

In view of minimizing the opportunity cost of holding cash and maximizing the return, on the available funds, the cash balance should be maintained at a minimum level and the fund not required for immediate use be invested in the marketable securities.

Baumol model is onto the methods that can be used for this purpose. Baumol identifies the cash maintenance as analogies to inventory maintenance and demonstrates that the model of economic order quantities that is applicable to inventory management is perfectly applicable in cash management too. Boumol model is based on the assumptions that

- i. The cash is used at a constant rate
- ii. The periodic cash requirements is sometime high and sometime low i.e. fluctuating trend
- iii. There are some costs such as opportunity costs that increase and other costs such transaction costs that decrease as cash balance increase. Because of the assumptions (i) and (ii) the graphical representation of cash position looks like as follows:

Figure no: 2.2 EOQ Model of Cash Balancing



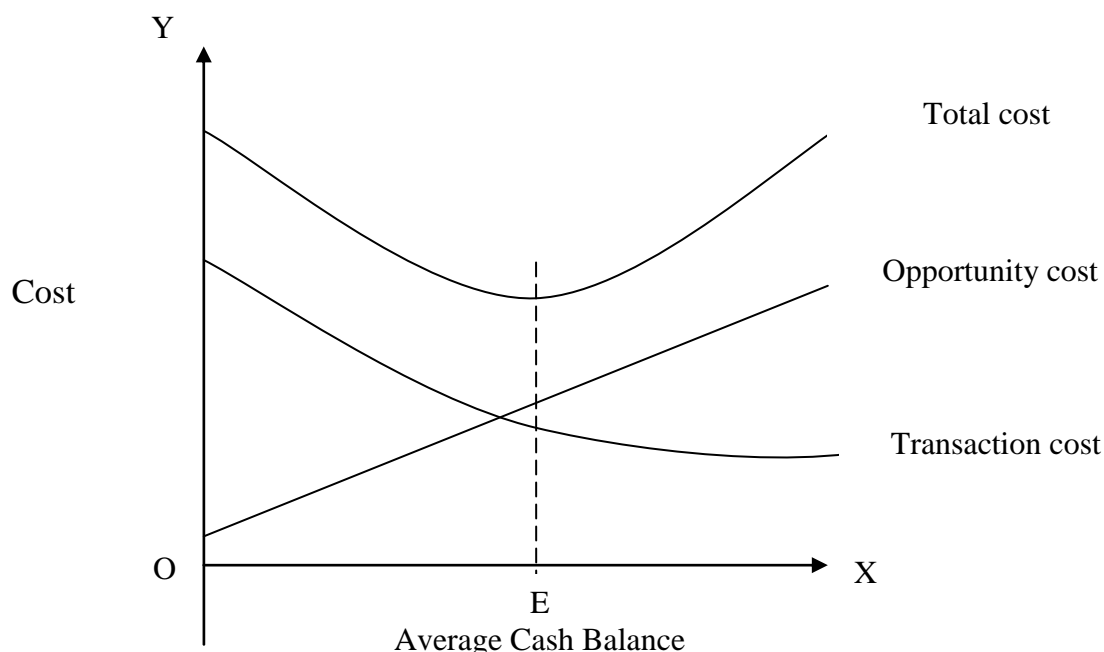
Source: Baumol, “The transaction demand for cash”

Unlike the case of inventory purchases, the cash transfer doesn't take time. Therefore, it is normally not required to maintain safety stock of cash.

In the given assumption, the model prescribes an optimal size of cash balance and the optimal size of cash transfer from marketable securities to cash account on borrowing. What matter for a firm is the total of opportunity cost and the transition cost? Therefore, the objective of this model is to minimize the total cost.

The figure below shows the relationship between the average size of cash balance and various costs associated with the cash maintenance.

Figure no: 2.3 Relationship between Average Cash Balance and Cost of Cash Maintains



Source: Baumol “The transaction demand for cash”

Mathematically, the optimal size of cash transfer from investment accounts or line of credit,

Optimal size of Cash Transfer (E) is determined as follows:

$$E = \sqrt{\frac{2FR}{K}}$$

Where,

F = Fixed transaction cost per transaction

R = Requirement of cash per period

K = opportunity cost of holding cash or interest rate on borrowing

The Baumol model can be appropriately applied if uniform net cash flows can be predictable, but not in the situations characterized by irregular and uncertain cash flows. The average cash balance (c) is calculated as follows:

$$C = \frac{E}{2} + M$$

Where,

M = Minimum balance or cash for precaution.

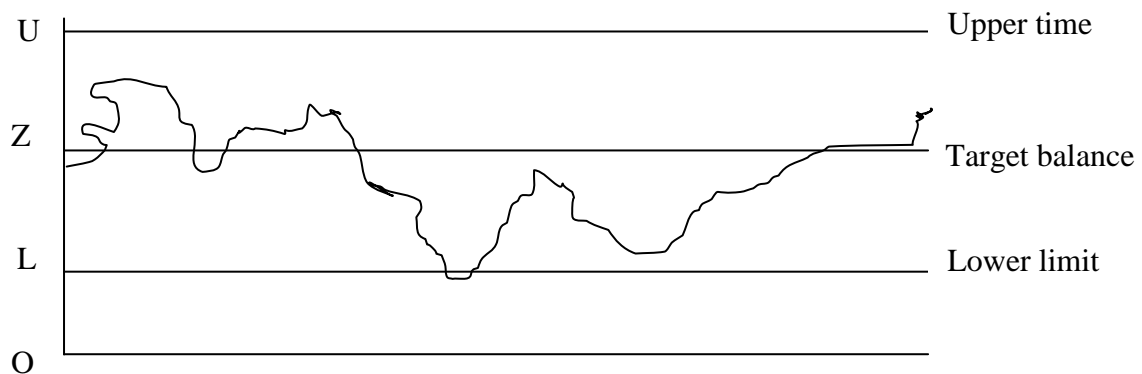
E = Optimum size of cash transfer

ii. Miller–Orr Model: (Miller-Orr, PP. 413-435)

The size of cash need depends on the pattern and degree of irregularity of inflow and outflows. The Baumol model does not consider the possible inflow and outflows. The Baumol mode does not consider the possible irregularity and uncertainty of receipt and payments. Merton Miller Dainel ORR have developed a model known as Miller-ORR model, that takes into account the realistic pattern of cash flows and prescribed when and how much to transfer from cash to investment account and vice versa.

The model is based on the assumption that the daily net cash flows are random in size as well as in the negative or positive flows and are normally distributed in the long run. The model sets arrange of high and low limits with in when the cash balance is allowed to fluctuate and sets the target cash balance (z) in between these two limits. The model suggests bringing the cash balance to target balance when ever their drift away to the limit is in either direction. The rule is to transfer the amount of cash is necessary to bring the cash positions to its target balance from the investment account whenever the balance slides down to the lower limit (L) to transfer the cash in excess of target balance to the investment account whenever it reaches to the upper limit (U). The lower limit in the model is set by either managerial decision to meet emergency need or as required by bank to maintain compensating balance in the account. The graphical representation of this model is as follows:

Figure no: 2.4 Graphical Presentation of Millet-Orr Model of Cash Balance



Source: Pandey, 1964, p.929

Mathematically, the model is set as follows:

$$Z = \left(\frac{3F\sigma^2}{4i} \right)^{1/3} + L$$

The lower L is given, the model calculate the Z and U.

$$U = 3 \left(\frac{3F\sigma^2}{4i} \right)^{1/3} + L$$

$$= 3Z - 2L$$

The average cash balance (C) is obtained as follows:

$$C = \frac{4Z - L}{3}$$

Where,

Z = target cash balance

F = Fixed transaction cost per transactions

I = Daily interest/opportunity cost

σ^2 = Variance of net daily cash flows

L = Lower limit

iii) Orgler's Model: (Orgler "Cash management Method and model" 1970)

According to this model, an optimal cash management strategy can be determined through the use of multiple linear programming model. The model comprises three objectives: (i) Selection of the appropriate planning horizon (ii) Selection of the appropriate decision variables (iii) Formulation of the cash management strategy with the other operations of the firm such as production and with less restriction on working capital balance.

The model basically uses one year planning horizon with twelve monthly periods because of its simplicity. It has four basic sets of decision variables which influence cash management of a firm and which must be incorporated into the linear programming model of the firm. These are (i) Payment schedule (ii) Short-term financing (iii) Purchase and sale of marketable securities and (iv) Cash balance itself.

The formulation of the model requires that the financial manager first specify an objective function and then specify a set of constraints. Orgler's objective function is to minimize the horizon value of the net revenues from the cash budget over the entire planning period using the assumption that all revenue generated is immediately re-invested and that any cost is immediately financed. The objective function recognizes each operation of the firm that generates cash inflow or cash outflows as adding or subtracting profit opportunities for the firm in cash management operations. In the objective function, decision variables which cause inflow such as payment on receivable which cause inflow such as payment on receivable have positive coefficients, while decision variables which generate cash outflows, such as interest on short term borrowings have negative coefficients. The purchases of marketable securities would for example produce revenue and they have a positive coefficient while the sale of those securities would incur conversion costs and have a negative coefficient.

The constraints of the model could be (i) institutional (ii) Policy constraints. The institutional constraints are those imposed by external factors, for instance, the financial manager may be prohibited from selling securities before maturity. Either

constrain can occur in the model during one month period or over several or all the months in the one year planning horizon.

An example of linear programming model is as follows:

Objectives function: max. Profit = $a_1x_1 + a_2x_2$

Subject to constraints:

$$c_1x_1 + c_2x_2 \leq \text{Cash available constraints}$$

$$b_1x_1 + b_2x_2 > \text{Current assets requirement constraints.}$$

Very important feature of the model is that it allows the financial managers to generate cash management with production and other aspects of the firm.

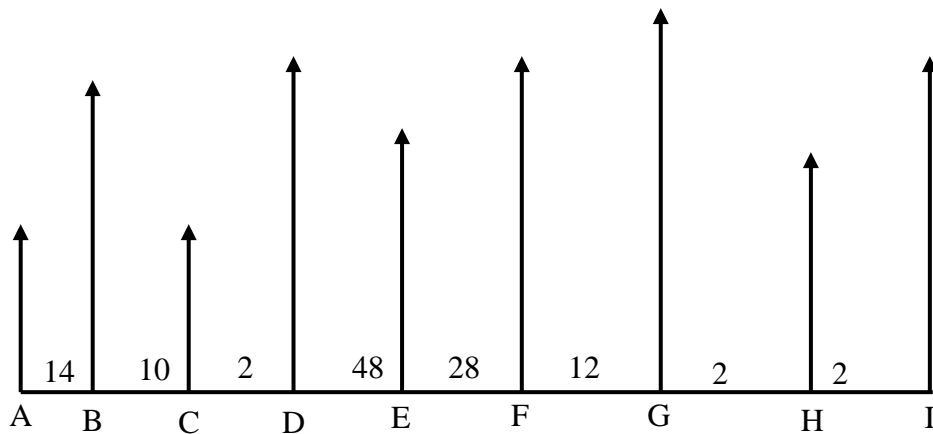
2. 1.6 Cash Cycle

The financial needs of the corporations are affected by the details of the cash cycle involved in the process of conversion from purchase, production and sale to ultimate collection. Opportunities to improve cash cycle help in best management of cash. The two important questions that the corporate managers should bear in mind are given below.

1. How the collection and disbursement of cash balance should be effectively managed through careful insight into the cash needs of the consulations.
2. Given as total pool of cash, how would it be appropriate to determine the size of cash and how is it possible to make best use of idle funds by investing in gilt edged securities?

The cash cycle of the corporation is given below:

Figure no: 2.5 Cash cycle



Source: Solomon and Pingle, p. 197

Details of cash cycle

Where,

A = Materials ordered

B= Materials received

C= Payment

D= Cheque Clearance

E= Goods sold

F= Customer mails payments

G= Payments received

H=Cheques deposited

I= Funds collected

In addressing ourselves to the cash management strategies, we concerned with the time periods involved in stages A,B, C, D, E, F, G, H, I. It may be mentioned that a firm has no control over the time involved between stages A and B. the lag between D and E is determined by the production process and inventory policy. The time period between I and F is determined by credit terms and the payments policies of customers.

The hypothetical example explains that the corporation needs 60 day or two months to collect funds from the beginning of materials ordered to have ultimate cash. It takes 14 days to receive materials from supplies and adding 20 days for payment and still two days assumed for clearing the cheques. Sales inventory takes 48 days to have complete clearing off stocks and customers might pay only after 28 days by mailing cheque. Moreover, six additional days are taken for payment receipt, cheque deposit and ultimate collection. This is applicable only for direct selling of consumer goods but in a manufacturing concern the time lag may be still greater. Some of the time lags can be controlled to have speedy collection of cash through minimizing time periods BCD and FGHI. Time period AB is beyond the control of the corporation and does not directly affect the financial statement although they have much to do with production schedules of corporations. Time period DE depends upon the production processes and inventory policy and to a great extent affects the total investment in inventory. This is applicable only for direct selling of customer's goods but in a manufacturing concern the time lag may be still greater.

2.1.7 Motives for Holding Cash: (Khan and Jain, 2003)

The economic theory as developed by Keynes in relation to the question why people in general maintain liquid cash because of various motives also apply to the policies of corporations except the motives of speculation in most of case. "Keynes" identified three motives for holding cash: 1) "The Transaction Motives 2) Precautionary Motive 3) Speculative Motive". All corporations regardless of sizes type, locations etc have the same motives in holding cash. We discuss briefly these motives at corporations to hold cash below.

2.1.7.1 Transaction Motive

This refers to holding of cash to meet routine cash requirement to finance the transaction which a firm carries in the ordinary course of business. A firm enters in to a variety of transaction to accomplish its objectives which have to pay in the form of cash. The requirement of cash balance to meet is known as transaction motive and such motive refers

to the holding of cash to meet anticipated obligation whose timing is not perfectly synchronized with cash receipt.

2.1.7.2 Precautionary Motive

The cash balance held in reserves for random unforeseen fluctuation in cash flows are called as precautionary balances. In other words precautionary motives of holding cash implies the need to hold cash to meet unpredictable obligation. Thus precautionary cash balance serves to provide a caution to meet unexpected contingencies. The most unpredictable are the cash how the larger is the need or such balance.

Another factor which has a bearing as the levels cash balances is availability of short term credit. If a firm borrows a short notice to pay for unforeseen obligation, it will need to maintain a relatively small balance and vice versa

2.1.7.3 Speculative Motive:

It refers to the desire of firm to take advantage of opportunity which presents themselves at unexpected movement and which is typically outside the normal course of business. While the precautionary motive is defensive in nature in that firm must make provision to tide over unexpected contingencies, the speculative motive represents a positive and aggressive approach. The firm's aim is to exploit profitable opportunities and keep cash in reserve to do so. The speculation motive helps to take advantages of the following:-

- An opportunity to purchase raw materials at a reduced price on payment of immediate cash.
- A change to speculate on interest rate movement by buying securities when interest rates are expected to decline.
- Delay purchase of raw materials on the anticipation of decline in prices and
- Make purchases at favorable prices.

2.1.7.4 Compensating Motive:

It is to compensate banks for providing certain services and loans. Usually, clients are requested to maintain a minimum balance of cash at the bank. Since this balance can

not be utilized by the firm for transaction purchase, the banks. Themselves can use of amount to earn a return. Such balances are compensating balance.

Compensating balance is also required by some loan management between a bank and its customer. During periods when the supply credit is restricted and interest rates are rising, banks required a borrower to maintain a minimum balance in his account as a condition precedent to the grant of loan. This is presumably to 'compensate' for a rise in the rate during the period when the loan will be pending if four primary motives of holding cash balances the two most important are transaction motive and the compensation motive. Business firm do not normally speculate and need not have speculated balances. The requirement of precautionary balances can be made out of short term borrowing.

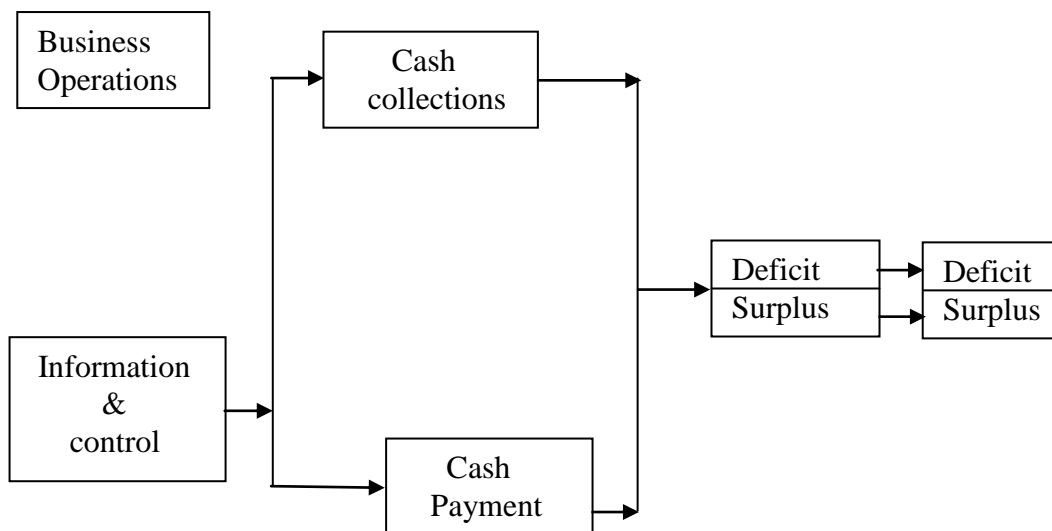
2.2. Review of Books

Various scholars as well as authors have given different views about cash management. Some of them have been taken as review of books for cash management. According to Batty (1972) cash is only one constituent of what is essentially a combination of a business resource. It is the part of working capital and as such provides the means of earning a profit investment for business. The objective should aim to obtain an optimum level for each component of current assets figure and a smooth and rapid conversion of these assets to cash both of these lead to improve earning power. Further, he defined cash management as the process involve in the effective planning and control of cash requirement of a business.

Similarly, Pandey, I.M. (1999) suggested that the firm should keep sufficient cash. Cash shortage will disrupt the firm's manufacturing operations while excessive cash will simply remain idle, without contributing nothing towards the firm's profitability. According to him, the major function of financial manager is to maintain sound cash position. Some theoretical insights about cash management has presented by him. He said that cash management is concerned with the managing of, (i) cash flows into and out of the firm, (ii) cash flow within firms, and (iii) cash balance hold by the firm at point of time by financing deficit or investing surplus cash. It can be represented by a

cash management cycle. Sales generated cash which has to be disbursed out. The surplus cash has to be invested while deficit has to be borrowed. Cash management seeks to accomplish this cycle at a minimum cost. At the same time, it also seeks to achieve liquidity and control. Cash management assumes more important than other current assets. Unlike, fixed assets or inventories, it doesn't produce goods for sale. Therefore, the aim of cash management is to maintain adequate control over cash position to keep the firms sufficiently liquid and to use excess cash in some profitable way. The cash management cycle is shown as follows:

Figure No. 2.6: Cash Management Cycle



Source: Pandey I.M., Financial Management, p. 912

The management of cash is also important because it is difficult to predict cash flows accurately and there is no perfect coincidence between inflows and out flows of cash. During some period cash outflows will exceed cash inflows for payment of taxes, dividend or seasonal inventory builds up. At other times, cash inflows will be more than cash payment because there may be large cash sales and debtors may be realized in large sums promptly. Cash management is also important because cash constitutes the smallest portion of the total current assets. Yet management's considerable time is devoted in managing it. In current past, a number of innovations have been done in cash management techniques. An obvious aim of the firm now-a-days is to manage its cash affairs in such a way as to keep cash

balance at a minimum level and to invest the surplus cash in profitable investment opportunities.

Jain & Narang (1993) have described about cash management. He said that cash is crucial component of working capital of a concern. Cash like blood stream of human body, gives strength to human body, gives strength to business unit. He explained that cash is ultimate resource for a business, so management of each business unit should endeavor to secure larger cash at the end of each working capital cycle than what it had at the beginning of working capital cycle. Further, the important objective in managing cash should be trade off liquidity and profitability in order to maximize profits. By keeping larger amount of cash, the firm will be able to meet its obligation. However, cash is non earning assets, so unnecessary cash should not be kept. Liquidity and profitability must be balanced in such a way that the organization retains its liquidity and at the same time maximizes its profitability. They also stressed that business transaction, without involvement of cash is mythical in this monetary world. Today the importance of cash management is recognized by all segments of organizations activities. If some of departments are bound to create serious problem. The study of cash management is therefore considered as an integrated approach to management science.

Shrestha, M.K.(1980) has described some conceptual ingredients about cash management which is based on his various research studies. We can learn lesson from it and also helpful for this study indeed.. He suggested that if cash holding is bad for inefficient corporation, cash shortage is dangerous for efficient corporations. As for inefficient corporations, it does not matter whether cash inverses or diverse if they are not in a position to utilize them. But efficient corporation due to undertaking of more operations need more cash besides having profit.

Hampton J.John (1990) has given more suggestion for effective management of cash. He explained that net working capital is the measure of liquidity, which is defined as the adequacy of cash to meet the firm's obligation. The highly liquid firm has sufficient cash to pay its bills at all time. Non-liquid firm is unable to pay its bills when due. The investment of excess cash, minimizing of inventory, speedy collection

of receivables, and elimination of unnecessary and costly short term financing all contribute to maximizing the value of firm. In a period of high interest rate, customer may be slow in paying their bills that will increase receivable. If the level of cash is linked to the level of sales, variable working capital may be changed.

Khan, M.Y. and Jain P.K. (1994) explained that cash management linkage with working capital management. He expressed that cash management is one part of the key areas of working capital management. This underlines the significance of management. He presented a detail account of the problem involved in managing cash, i.e. motive for holding cash, objective of cash management, factors determining cash needs, cash management models, cash budgets, basic strategies for efficient management of cash, and specific techniques to manage cash subsequently.

Van Horne (2002) has described the knowledge about cash management. He said that cash management involves managing the capital of the firm to maximize the cash availability and interest income to any idle funds. The function starts when a customer writes a Cheques to pay the firm on its account receivable. The function ends when a supplier, an employee or government realizes collected fund from the firm as an amount payable or accruals. All activities between these two points fall within the realm of cash management. The firm's efforts to get customers to pay their bills at a certain time fall within account receivable management on other hand, the firm's decision about when to pay its bills involves account payable and accrual management. He again described an idea of effective collection and disbursement of cash. The attempt should be made to accelerate collection & handle disbursement so that maximum cash is available. Collection can be accelerated by means of concentration banking, a lock-box system and certain other procedures. Disbursement should be handled to give maximum transfer flexibility and the optimum timing of payment, being mind-full, however, of supplier relations. Methods of controlling disbursement i.e. electronics fund transfer is becoming popular and most corporation use such transfer in one way or another.

Weston and Brigham (1999) have poured some views about cash management after their various studies. The bond conceptual findings of their studies provide sound knowledge and guide lines for the future studies in the field of cash management.

They explained the motives for holding cash, specific advantage of adequate cash, synchronization of cash flows, expanding collection and cheques clearing, using float, cost of cash management, determining minimum cash balance, compensating balance, marketable securities. Substitute for cash criteria for setting securities investment alternatives.

Brigham and Friends (2001) have described some conceptual insights which are based on various research studies. They believed that cash is often called 'non earning assets'. It is need to pay for labour and raw materials, to buy fixed assets, to pay taxes, to serve debt, to pay dividend and so on. However, cash it self earn no interest. Thus, the goal of the cash manager is to minimize the amount of cash firm must hold for use in conducting its normal business activities. The sufficient cash is needed (i) to take trade discount, (ii) to maintain its credit rating, and (iii) to meet unexpected cash needs.

Pradhan, J.K. (2004) explained about cash and it management. According to him cash includes coins, currencies, cheque hold by a firm, and balances in its bank account. Some times “near cash Items” are also included in cash, e.g., marketable securities. If the firm has excess cash, it may decide to convert it to short term investments. The financial manger will purchase low risk, high liquidity money market instrument that can be converted back to cash without delay if the need arises. The securities provide a small profit on cash that may not be needed immediately for the firm's operation. These securities are widely used as short term investment by the firm's operation. These securities are widely used as short term investment by the firm in developed countries. Each security offers different characters that make it suitable for different firms. He said cash management is also called management of money position because cash includes not only the cash but also the readily convertible securities or other near cash items, e.g. time and demand deposit, readily available credit and so on.

According to him concerning areas of cash management are,

- ❖ Management of cash flows into and out of the firms
- ❖ Management of cash flow within the firm

- ❖ Management of cash balance held by the firm at a point of time.

Weston & Copeland (1992) suggested about cash management from various study and research. They said that relatively high level of interest rates have increase the importance of cash management, while at same time advance in technology have changed the nature of cash management function. Financial manager have developed new techniques for optimizing cash balance and determine the appropriate relation between holding investment in marketable securities.

2.3. Review of Related Study

In this section an attempt has been made to review some thesis/dissertation and other related publications related to cash management.

Five dissertations have been reviewed which are written on cash management in different Companies in Nepal. Researcher has tried to find out the real cash position of the company by making study on the several companies such as Pradhan (1997) from his case study of cash management in Salt Trading Corporation Limited (STCL), Lamichhane (2005) Cash Management Practices in Nepalese Listed manufacturing Company, Gautam (1990) Cash Management in Gandaki Noodles Pvt. Ltd, Ghimire (2005) Cash management in Gorakhali Rubber Udhyog Limited (GRUL) etc. The position of the cash in most of the manufacturing company is found to be satisfactory. More efforts and works are to be done to improve the cash position of these manufacturing companies. Only few of the manufacturing company have been able to achieve their objectives and more are left behind and are working to improve the quality and the level of the cash management of the company.

Pradhan, J.K.(2004) from his case study of cash management in STCL had found that,

- i) STCL could not make the best use of available cash balance prudently.
- ii) The cash collection efficiency in this corporation is very low.
- iii) The cash collection of trade credit in the corporation is low during three years of study period.

- iv) Management has taken liberal credit policy to sales of goods. Hence the cash and balance of study period is minimum average receivable.
- v) No optimum cash balance is maintained. The cash and bank balance with respect to current assets has been fluctuating trend. Similar in the case with respect to the total assets.

To improve such problem i.e. major critical findings, he had recommended the STCL, to

- i) Efficient management of cash
- ii) Prepare monthly trial balance, cash flow, Funds Flow Statement and financial report.
- iii) Design the effective A/R management and adopt efficient credit policy.
- iv) Invest surplus cash in profitable opportunities.
- v) Prepare cash budget
- vi) Maintain optimum cash balance

Lamichhane, Ramchandra(2005) has studied the cash management practices in Nepalese Listed Manufacturing Companies. He has taken six enterprises as a sample. After analyzing the relevant data and different aspects of cash management of his study, he got following result or findings:

- i. The selected manufacturing companies are unable to make sufficient cash balance.
- ii. They fail to utilize the cash balance properly.
- iii. There is no uniformity in cash position in these companies.
- iv. There is greater fluctuation in liquidity position of these manufacturing companies.
- v. Average receivable position in most of the companies is seen higher.
- vi. So, there is the greater possibility of bad debts. If they do not consider about it, they will be thrown in great cash crisis.

- vii. While comparing the profit and cash position, it is seen that there is no significant bearing of cash balance on net profit in most of the organization.

Similarly, same type of study has been done by Gautam, Ramesh (1999). Approximately same conclusion and recommendation has been provided on his study. His study is concerned with cash management in Gandaki Noodles Pvt. Ltd. as a case study.

Ghimire, Tika Ram (2005) has also study in Cash management of Gorakhkali Rubber Udhdyog Limited (GRUL). He has found following result:

- i. The industry supplies its main products directly to the depots.
- ii. The sales forecast of the company is generally near equal to actual sales and production also depends upon sales forecast. The industry's capacity utilization is low (about 50%) during the study period cause of low sales position.
- iii. The industry has been facing the problem of skilled manpower, lack of quick availability of raw materials and fluctuating price of raw material.
- iv. There is no systematic appointment of personnel and there is lack of system of right man in right place and other related activities.
- v. The industry has poor economic status. The industry is not able to achieve profit during the study period and the loss amount is very high. The industry is unable to pay even interest of bank loan.
- vi. The main sources of cash of the GRUL are sales of products and loan. The industry uses cash at huge amount for purchase of raw materials, payment of interest and tax, wages payment, and selling and distribution expanses etc.
- vii. The industry sales its productions in cash and credit basic and there is no strict policy of quick collection of account receivable.

- viii. The industry purchases raw materials and other related goods both in cash and credit, which depends upon situation of time, nature of goods and balance of cash.
- ix. The cash balance of different years shows no optimum cash balance is maintained and there is no definite policy applied for cash management.
- x. Cash turnover ratio is low which indicates low collection efficiency of the industry and account receivable turnover is also low, this shows the higher collection period of the industry.
- xi. Management has taken liberal credit policy of sales hence the cash and bank balance during the study period is minimum of account receivable in many years.
- xii. Cash to current liabilities ratio found highly fluctuation that means the industry has been facing problem of cash management.
- xiii. The cash and bank balance with respect to current asset and total assets are fluctuating trend are fluctuating trend. This shows the cash position of the industry is not properly good.

In summary above findings and conclusions shows that the cash management of GRUL is very poor and is in fluctuating trend. So the GRUL ought to do good cash collection and invests it.

Another research which has been currently submitted made the study easier. This study is concerned with cash management in public trading company: a case study of Salt Trading corporations Ltd. studied by Toyenath Neupane (2004). He concluded the poor cash management practices of STCL. From his case study it has been found that several factors such as the nature of business, level of sales, credit terms, quality of customers, economic condition etc. have to be considered in cash management.

2.4. Key Elements of the Research

Major difference of the research work with other research is presented below.

1. This research is based on the analysis of different financial and statistical tools.

2. Scientific and systematic research design is used.
3. Different theories and models of cash forecasting such as Baumol Model, Miller Orr Model, Orgeler's Models are used.
4. Motives for holding cash such as transaction motives, precautionary motives, speculative motive etc are used.
5. Mostly graphical presentation is included in this research work along with description.
6. More review of books and review of related study is carried out to get more idea and information about the cash management.
7. Analytical and descriptive research design is applied.
8. This thesis is based on both primary and secondary data.

CHAPTER THREE

RESEARCH METHODOLOGY

In the preceding chapter, it has been overviewed briefly on cash management concept; the basic purpose of this chapter is to enlighten the research designing, nature and source of data collection procedures and methods of analysis of data in brief.

3.1 Introduction

Methodology states the method with which data have been extracted and discuss the tools that have been used in interpretation of such data to fulfill the objectives. More specifically, it describes about the research design. The population and sample, nature of source of data and tools that is to be used to analyze data.

The main purpose of this chapter is to focus on different research method and condition, which are used while conducting this study. Every study needs a systematic methodology to show the better results of the research. In this study, a cash management of Bottlers Nepal Limited also needs an appropriate research method for the purpose of this study. Only secondary data have been used which was available from Bottlers Nepal Limited, Balaju, Kathmandu.

3.2 Research Design

The research study attempts to analyze the cash management techniques adopted by the public companies like BNL. Hence, analytical and descriptive research is applied.

A well settled research design is necessary to fulfill the objective of this study. It means definite procedures and techniques that guide to study and propounds way for research viability. This study aims to evaluate managerial efficiency and performance regarding cash management of BNL. This study tries to make comparison and to establish relationship between two or more variables. So as to facilitate the assessment, the researcher collected five years data of BNL and have tabulated and different financial accounting tools are used to analyze and to find out needed result.

Descriptive research is a fact finding approach to present and abstracting generalization by the cross section study of the current situation.

Analytical approach is followed to parametric and non parametric test of data. It is the process of micro-analysis and appraisal to the data.

3.3 Population and Sample

There are many trading companies, which are actively operating their business in market. It is not possible to study all of them regarding the research topic. Therefore among them, one reputed manufacturing company is taken as a sample company from population for this research study.

3.4 Source of Data

This study is based upon secondary data, published by the Bottlers Nepal Limited. For this study more than four years balance sheet, profit and loss account, related appendix and auditor's reports have been collected. Other related information has been collected through the direct interview and questionnaire with companies.

3.5 Data Gathering Instruments

Data recording system of BNL is scientific and systematic type of record keeping has been found because most of the personnel are trained and effective directions from the general manager.

The published data relating to the cash management position of BNL have been obtained from account department. The balance sheet and profit and loss account and other related documents, which are secondary nature, are directly collected from the company's account department.

3.6 Data Collections Procedure

The main sources of data are the head office of BNL. This study is found a mentally based on secondary sources of data, the annual financial statement have been collected directly from the account department. Five years balance sheet, profit and loss account and other related documents were not published in books of account simultaneously.

However the annual general meeting audited prospectus was taken through the account department and administrative department. The data were collected from the fiscal year 2062/063 to 2066/067 and were in the form of pointed books balance sheet other related data are also collected and used in this thesis from the head office. An opinion survey with the general manager, account officers also included for the data which are not cover only by the prospects.

3.7 Data Processing Procedure

The collected new data are processed and presented in tabular form with the help of simple arithmetic rules. The entire raw data are converted into approximate and condensed in the form of summary balance sheet and profit and loss account; most of the data have been compiled in one form and processed and interested as per the need of the study. The secondary type data are presented for the analytical purpose after the tabulation of the data. These types of data processing represents clear situation.

3.8 Methods of Data Analysis

Only financial and statistical tools are used for the analysis of data which is already stated in the limitation of the study. The producers of analyzing data are described as follows:

3.8.1 Financial Analysis

3.8.1.1 Ratio Analysis

Ratio analysis is a widely used tool of financial analysis. The ratio reveals the relationship in a more meaningful way so as to enable one to draw conclusion from it. As the case study of cash management involves ratio analysis for operational efficiency, the rate of return on total assets and capital employed and activity, efficiency ratio would be particularly meaningful for management and investing, although there is no hard and fast rule.

a. Analysis of Cash Turnover:

This ratio indicates the number of times average cash balance is turned over during the year. It is computed as follows:

$$\text{Cash turnover} = \frac{\text{Sales}}{\text{Cash in hand/bank}}$$

It measures the speed with which cash moves through an enterprise's operation.

b. Account Receivable Turnover:

This ratio is computed by dividing sales by account receivables.

Thus,

$$\text{Receivable turnover} = \frac{\text{Sales}}{\text{Account Receivable}}$$

It indicates the no. of times the receivables are turned over during the year. It gives the general measure of the productivity of the receivable measurement. If the ratio is high the working capital becomes higher and if the ratio is low the working capital becomes lower.

c. Collection of Account Receivable:

$$\text{Collection of account} = 1 - \frac{\text{Receivables}}{\text{Sales}} \times 100$$

d. AR to Cash/Bank Balance:

$$\text{AR to Cash/Bank balance} = \frac{\text{Cash/Bank balance}}{\text{Account Receivables}}$$

e. Analysis Cash to Current Liabilities:

$$\text{Cash to current liabilities} = \frac{\text{Cash/Bank balance}}{\text{Current liabilities}}$$

ii. Average Collection Period (ACP):

It indicates the no. of days it takes on an average to collect account receivables.

It is computed as

$$\text{a) Average Collection Period} = \frac{\text{Days in a year (360)}}{\text{Receivable turnover}}$$

$$\text{b) Average days of five years} = \frac{\text{Total days of five years}}{\text{Five years}}$$

3.8.2 Statistical Analysis

i. Straight line trend, correlation and regression:

a) Straight line trend $(Y_c) = a + bx$

b) Correlation (r):

"Correlation analysis is the statistical tools used to describe the degree to which one variable is linearly related to another" (Richard and David 1991). It does not tell as anything about causes and effect relationship. correlation analysis helps in determining the degree of relationship between two or more variable. "In business, correlation analysis enables the executive to estimate costs, sales price and other variables. On the basis of some other series with which their costs, sales or prices may be functionally related. Some of the guesswork can be removed from decisions when the relationship, between variables to be estimated and the one or more other variables to be estimated and the one or more other variables on which it depends are closed and reasonably in variant" (Gupta, p. 103).

For the purpose of analysis of cash management in BNL the correlation analysis is applied in same related topics. In these topics it can be seen the correlation between dependent and independent variables of cash management. The formula applied on the correlation is as follows:

$$r = \frac{\sum uy}{\sqrt{\sum u^2 \times \sum y^2}}$$

c) Standard deviation (S.D)

The standard deviation of a series of value is defined as the square root of the mean of the square deviation from mean of the distribution. It may be found by finding the differences between each individual frequency and the mean of the distribution, squaring these differences individually adding the square deviation and dividing by N

and then extracting the square of the results. The fundamental formula for the standard deviation is as follows:

$$S.D. = \sqrt{\frac{\sum d^2}{N} - \left(\frac{\sum d}{N}\right)^2}$$

"The S.D or the root mean square deviation is the square root of the mean of the square deviation from their mean of a set of values" (Monga).

"The standard deviation measures the absolute variability the greater the SD, for the greater from their mean. A small S.D means a high degree of uniformity of the observation as well as homogeneity of a series" (Ibid). In BNL standard deviation is applied where it is necessary.

$$\text{d) Probable Error Ratio (P.E.R).} = 0.6745 \frac{(1 - r^2)}{\sqrt{n}}$$

If 'r' is less than its PE, it is not all significant. If 'r' is more as PE there is correlation. If 'r' is more than 6 times it's PE and greater than is ± 0.5 , than it is considered significant.

e) Regression line of sales (x) on cash balance Y

"Regression is the determination of statistical relationship between two or more variables. One is independent variable that affects the behavior of dependent variable. Regression can only be interpreted of what exists physically i.e. there must be physical way in which independent variable x can effect dependent variable (Y)" (Kothari, 1989).

For the analysis of cash management of BNL simple regression analysis is applied to locate the relationship between sales on cash balance. The computation of regression line of sales (x) on cash balance (Y) is as follows:

$$(x - \bar{x}) = r \frac{\sigma_x}{\sigma_y} (y - \bar{y})$$

The regression line of cash balance (Y) on actual

$$\text{Sales}_{(X)} = (Y - \bar{Y}) = r \frac{\sigma_y}{\sigma_x} (X - \bar{X})$$

3.9. Definitions of Key Terms

To avoid ambiguity confusion and misunderstanding the key terms used in this study have been defined as follows:

a. Sales:

Sales including only trading sales ignore the miscellaneous sales.

b. Average Collection Period:

This indicates number of days entertained by sundry debt or credit period allowed to sundry debtor.

$$\text{Average Collection period} = \frac{\text{Time Reveivable turnover}}{\text{No. of days in a year}}$$

c. Account Receiving to Cash Balance:

It is an indicator of the liquidity of cash. It measures the relationship between cash and volume of account receivable a period of time.

$$\text{Account receivable to cash balance} = \frac{\text{Cash and bank balance}}{\text{Accountreceivable}}$$

d. Cash Budget:

Cash budget is the most important tools of cash management. It is a plan of future cash received and payment.

CHAPTER FOUR

ANALYSIS AND PRESENTATION OF DATA

The basic objective of this study as stated in chapter one is to have true insight into “Cash Management” of BNL. For accomplishment of these objectives a definite course of research methodology has been followed which is described in chapter third. Now in this chapter the effort has been made to assess and analyze the cash management to disclose the actual position of cash management of BNL.

4.1 Analysis of the Data by Financial Tools

4.1.1 Analysis of cash balance

Management of cash plays a vital role in current assets of BNL. The total cash include cash in hand, cash at bank and cash in transit. The table below shows the cash position of the company during the study period

Table 4.1.1: Analysis of Cash Balance

Fiscal year	Cash and Bank balance (Rs)	Increase (Decrease) %
2062/63	5335000	-
2063/64	13755000	157.83
2064/65	1917000	(86.06)
2065/66	35926000	17.7407
2066/67	3464000	(90.36)

Source: Annual report of BNL for the year 2062/63 - 2066/67

The cash holding of the company shows very fluctuation as it increased by 157.83 percent in FY 2063/64 as compared to 2062/63 and in FY 2064/65 decreased by 86.06 percent as compared to cash balance of 2063/64. But strong changes occurred in 2065/66 where the cash balance increased to 17.7407 percent. In fact this visualizes that the company could not make the best use of these available cash balance. There is declined of cash balance to 90.36 percent in 2066/67 which is more than as compared to 2064/65 but the cash balance in 2065/66 is very less amount as compared to 2063/64. On the whole the figure shows that there is no any

definite policy of cash management. While in some years it has maintained excessive cash balance, while in other years it has very low. Moreover, the company has not planned cash inflow and outflow forecasts. It is crucial importance for the company to keep careful watch over the cash movements to determine how cash become available and also to investigate the opportunity for the use of cash.

4.1.2 Analysis of Cash Turnover

4.1.2 Analysis of Cash Turnover

Fiscal year	Cash and Bank Balance(Rs)	Sales (Rs)	Cash Turnover (Time)
2062/63	5335000	609654000	114.27
2063/64	13755000	632114000	45.96
2064/65	1917000	614739000	320.68
2065/66	35926000	621827000	17.31
2066/67	3464000	434190000	183.08
Average			136.264

Source: Annual Report of BNL for the year 2062/63 - 2066/67

Cash turnover ratio represents how quickly the cash is received from its sale. Higher turnover is the good signal of liquidity and vice versa. The above table shows that the highest cash turnover is 320.68 times in the FY 2064/65 when average being 136.26. In the year 2064/65 and 2066/67, the cash turnover time is more than that of the averages. This shows that in the year 2064/65 it takes 320.68 times cash turnover and 2066/67 it takes 183.08 times cash turnover which are above then the average cash turnover. This table shows that cash turnover time in a company is not homogeneity i.e. there is fluctuating trend. Some time it has more cash turnover where as some time it takes very less time turnover than that of averages.

In the year 2062/63, 2063/64 and 2065/66 the company is unable to collect cash from its credit sale timely. From the calculation it is observed that the collection efficiency in BNL is very low.

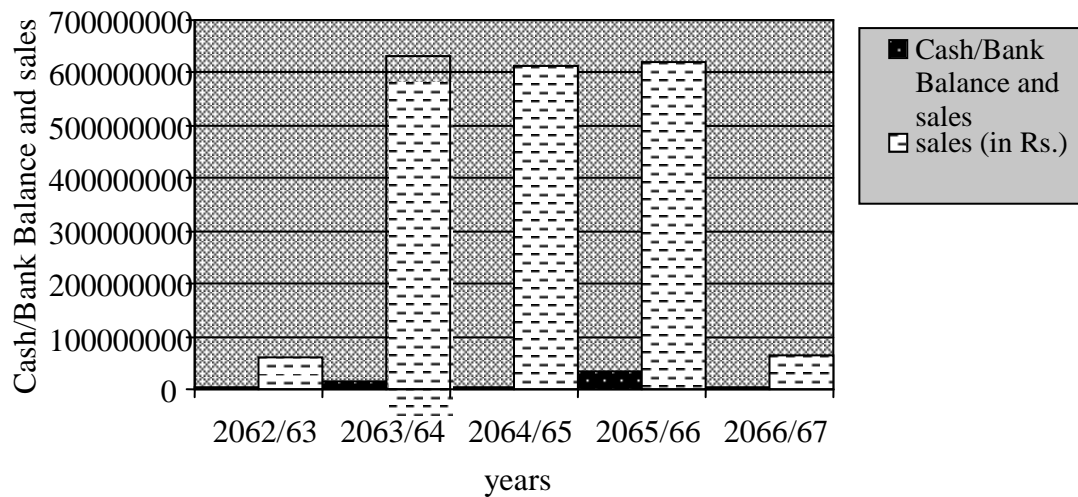


Figure 4.1: Graphical Presentation between Cash and Bank Balance and Sales

The above bar diagram shows that the graphical presentation of the relation between cash and bank balance and sales. The graph shows that the sales are maximum in the fiscal year 2063/64 and minimum in the year 2066/67. The figure also shows that cash and bank balance is minimum in the year 2064/65 and maximum in the year 2065/66. In the figure it is seen that the cash and Bank balance comparison with sales is very minimum.

4.1.3 Analysis of Cash Conversion Cycle (CCC)

Liquidity is the most important factor for determining firm's working capital policy. Liquidity has two aspects ongoing liquidity and protective liquidity. Out of which, ongoing liquidity refers to the inflows and outflows of cash. So, it is important to go through the cash flow of the company with the help of analyzing firm's cash conversion cycle.

A cash conversion cycle reflects the net time interval in days between actual cash expenditure of the firm's resources and ultimate recovery of the cash. The cash conversion cycle is calculated as follows:

$$\text{Cash Conversion Cycle (CCC)} = \text{Inventory Conversion Period (ICP)} + \text{Receivable Conversion Period (RCP)} - \text{Payable Deferral Period (PDP)}$$

To analyze the cash conversion cycle first of all we should analyze inventory conversion period, receivable period and payable deferral period.

i. Inventory Conversion period (ICP):

Inventory Conversion Period indicates efficiency of the firm's in selling its product. The short ICP indicates fast conversion of inventory to sales and the long period indicates slow conversion of inventory to sales. It can be calculated as follows:

$$\text{Inventory turnover} = \frac{\text{Sales}}{\text{Inventory}}$$

$$\text{ICP} = \frac{360}{\text{Inventory Turnover}}$$

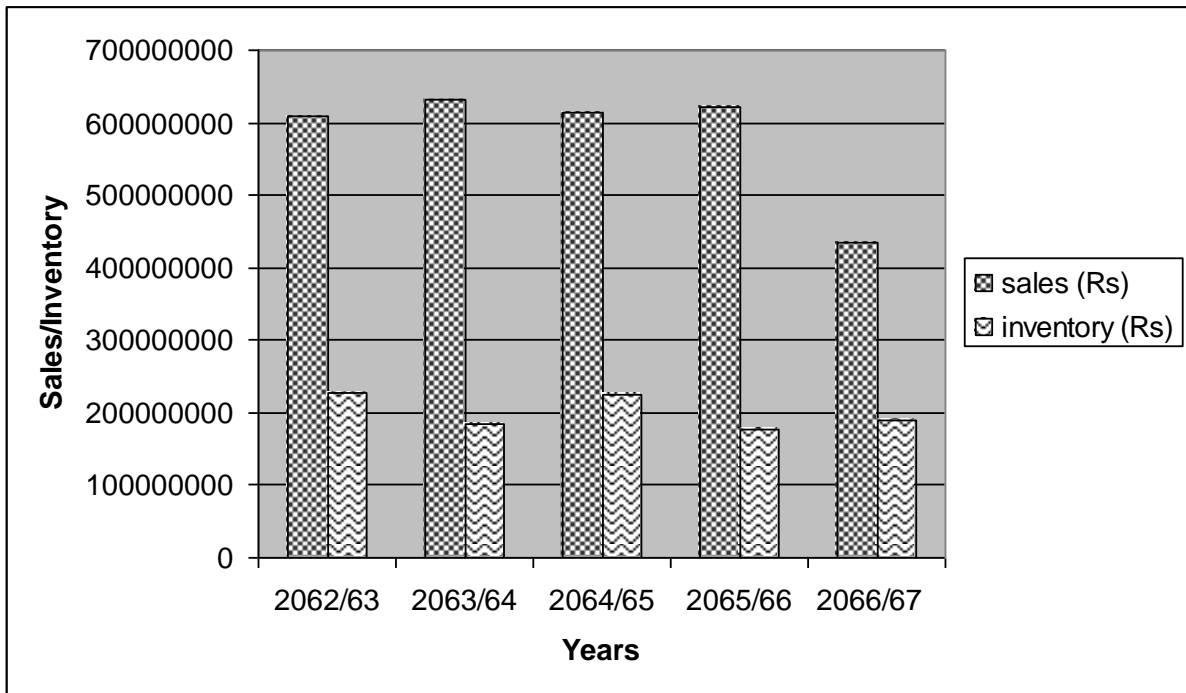
Table 4.3: Analysis of Inventory Conversion Period

Fiscal Year	Days in a year	sales (Rs)	inventory (Rs)	Inventory turnover time	I.C.P. (days)
2062/63	360	609654000	226861000	2.69	133.83
2063/64	360	632114000	184980000	3.42	105.26
2064/65	360	614739000	224070000	2.74	131.39
2065/66	360	621827000	176936000	3.51	102.56
2066/67	360	434190000	189256000	2.29	157.21
Average					126.05

Source: Annual Report of BNL for the year 2062/63 - 2066/67

The calculation of Inventory Conversion Period of BNL in the above table has shown fluctuating trend in the study period. ICP varies from maximum of 157.21 ≈157days in the fiscal year 2066/67 to minimum of 102.6 ≈103days in the fiscal year 2065/66. The maximum period refers the slow inventory turnover and minimum period prefers the fast inventory turnover. The average ICP is found 126.05≈126days which is more than that of year 2063/64 and 2065/66 and less than in the year 2062/63, 2064/65 and 2066/67 inventory conversion period.

Figure 4.2: Graphical Presentation between Sales and Inventory



The above bar diagram shows the relationship between sales and inventory. The figure shows the relation of inventory with comparing to sales except in fiscal year 2064/65 is in decreasing trend. The sales are maximum in the year 2063/64 and minimum in the year 2066/67 and inventory in the year 2065/66 is low and in the year 2062/63 is very high.

ii. Analysis of Receivable Conversion Period (RCP):

Receivable Conversion Period indicates the number of days debtor turnover into cash. It analyzes collection of debtors. The shorter the collection period, more efficient is the management of credit policy. Receivable Conversion Period should be shorter as far as possible. The receivable conversion period is calculated as follows:

$$\text{Receivable turnover} = \frac{\text{Sales}}{\text{Receivable}}$$

$$\text{RCP} = \frac{\text{Days in a year}}{\text{receivable turnover}}$$

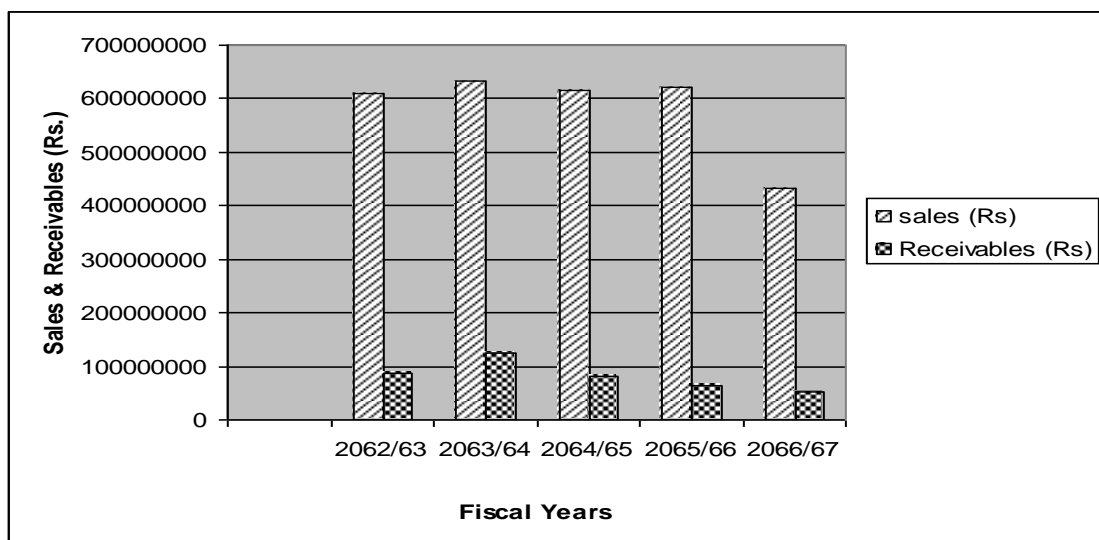
Table 4.4: Analysis of Receivable Conversion Period

Fiscal Year	days in a year	sales (Rs)	Receivables (Rs)	Receivable turnover Times	RCP days
2062/63	360	60,96,54,000	8,80,39,000	6.92	52.07
2063/64	360	63,21,14,000	12,41,78,000	5.09	70.73
2064/65	360	61,47,39,000	8,08,45,000	7.60	47.37
2065/66	360	62,18,27,000	6,36,57,000	9.77	36.85
2066/67	360	43,41,90,000	5,28,23,000	8.22	43.80
Average					50.154

Source: Annual Report of BNL for the year 2062/63 - 2066/67

The calculation of Receivable Conversion Period of BNL in the above table has shown fluctuating trend in the study Period. It varies from the minimum 36.85=37 days in the year 2065/66 to maximum 70.73=71 days in the year 2063/64. The average receivable conversion period of NBL is 50.15=50days. Low collection period indicates fast conversion of receivable and long collection period indicates slow conversion period. Here in the year 2064/65, 2065/66 and 2066/67, collection period is less than average and in the year 2062/63 and 2063/64 the collection period is higher than average collection period.

Figure 4.3: Graphical Presentations between Sales and Receivable



In the above figure, it is seen that the receivables are in fluctuating trend. Sales are maximum in the year 2063/64. Receivable with compare to sales are very minimum which is positive signal for the company.

iii. Analysis of Payable Deferral Period (PDP):

Payable Deferral Period indicates that speed of creditors payable. A high Payable Deferral Period is favorable for the company. Payable Deferral Period is calculated as follows:

$$\text{PDF} = \frac{\text{Creditors} \times \text{Days in a year}}{\text{Purchases}}$$

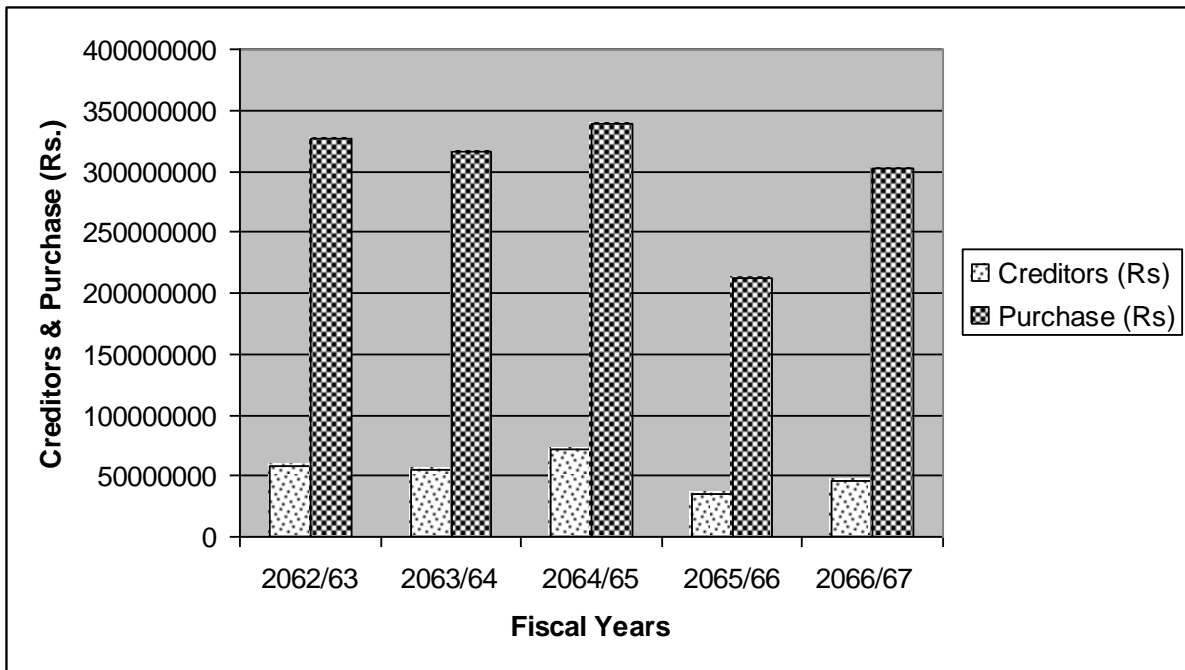
Table 4.5: Analysis of Payable Deferral Period

Fiscal year	Creditors (Rs)	Purchase (Rs)	Days in a year	PDP (days)
2062/63	5,81,65,000	32,62,63,000	360	64.18
2063/64	5,42,96,000	31,64,96,000	360	61.76
2064/65	7,23,33,000	33,93,15,000	360	44.91
2065/66	3,53,36,000	21,28,80,000	360	59.76
2066/67	4,63,02,000	30,15,78,000	360	55.28
Average				57.178

Source: Annual Report of BNL for the year 2062/63 - 2066/67

The calculation of payable deferral period of BNL in the above table indicates fluctuating trend in the study period. In the study period, PDP varies from maximum of 64.18 days in the year 2062/63 and minimum of 44.91 days in the year 2064/65. The average payable period of 57.178 = 57days has taken by company for the payment of trade creditors.

Figure 4.4: Graphical Representations between Purchase and Creditors



The figure shows the graphical presentation between purchase and creditors. In the figure, it is seen that the purchase is minimum in the year 2065/66 and maximum in the year 2064/65. The relation of the creditors in comparison to purchase is homogeneous in preceding four years and in final years it is in increasing trend.

iv. Calculation of Cash Conversion Cycle (CCC)

Cash Conversion Cycle shows how many times it takes to convert the receivable into cash and how much time does it takes to repay its obligation. Shortly, it refers the cash inflow and outflow of the company. The Cash Conversion Cycle is calculated as follows:

$$CCC = ICP + RCP - PDP$$

Where,

CCC = Cash Conversion Cycle

ICP = Inventory Conversion Period

RCP = Receivable Conversion Period

PDP = Payable Deferral Period

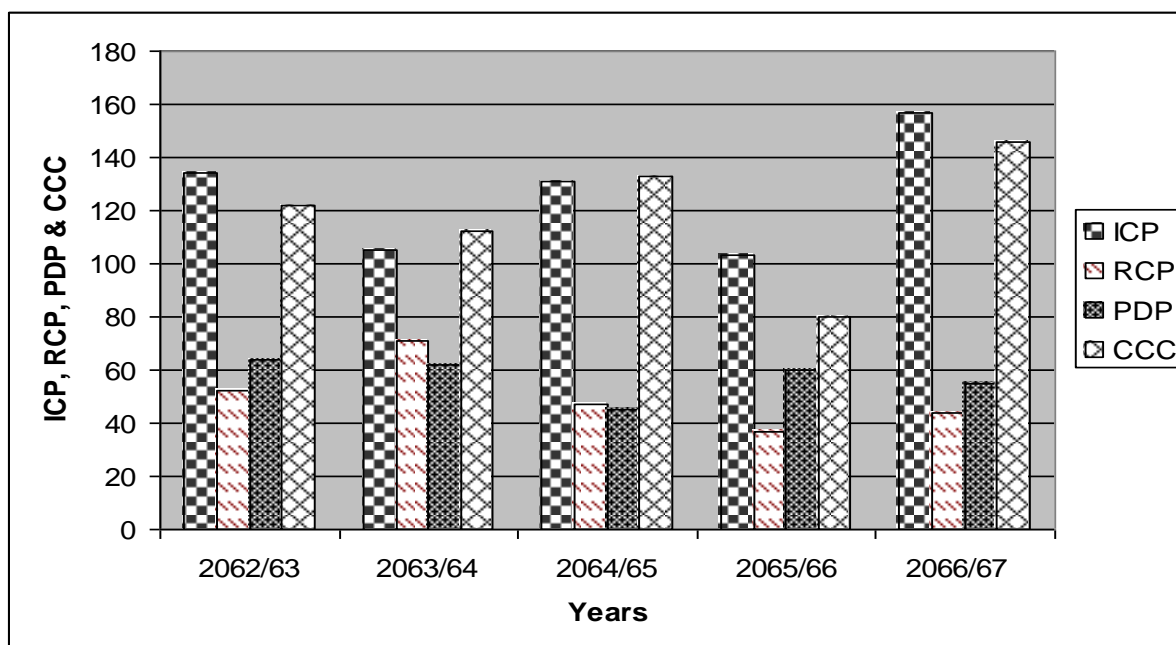
Table 4.6: Analysis of Cash Conversion Cycle (Days)

Fiscal year	ICP	RCP	PDP	CCC
2062/63	134	52	64	122
2063/64	105	71	62	112
2064/65	131	47	45	133
2065/66	103	37	60	80
2066/67	157	44	55	146
Average				119

Source: Audited Balance Sheet of BNL for the year 2062/63 - 2066/67

The above table shows the Cash Conversion Cycle (CCC) of BNL for the study period of five years from the fiscal year 2062/63 to 2066/67. Above table shows fluctuating trend of company during the study period. The average cash conversion cycle of BNL is 119 days which seems to be not satisfactory but company's credibility is good. Firm could not get the credit due to company delay in paying its obligation. BNL has maximum of 146 days in the year 2066/67 and minimum of 80 days in the year 2065/66 Cash Conversion Cycle.

Figure 4.5: Graphical Presentation of ICP,RCP, PDP and CCC



The above figure shows the graphical presentation among ICP, RCP, PDP and CCC. In the above multiple bar diagram it is seen that ICP are in decreasing trend except in the year 2064/65 and 2066/67 over study period, RCP is increased in the year 2063/64 and decreasing in the year 2064/65 and maximum in the year 2062/63. PDP is in fluctuating trend and CCC is also in the fluctuating trend.

4.1.4 Analysis of Account Receivable of BNL

The Corporation sells its goods on credit and cash basis. When the Corporations extend credit to its customers, bad debts are credited. Debtors or account receivables are to be converted into cash over a short period is included in current assets. The liquidity position of the corporation depends on the quality of debtors to a great extent.

Account receivables turnover is the relationship between credit sales and collection period. If turnover is high, there will be little of fund in turnover and vice versa.

Table 4.7: Analysis of Account Receivable Turnover of BNL

Fiscal Year	Receivable (Rs)	Sales (Rs)	Ratio in (Time)	Total Collection (%)
2062/63	88039000	609654000	6.92	85.56
2063/64	124178000	632114000	5.09	80.36
2064/65	80845000	614739000	7.60	86.85
2065/66	63657000	621827000	9.77	89.76
2066/67	57823000	434190000	8.22	87.83

Source: Audited Balance Sheet of BNL for the year 2062/63 - 2066/67

From the above table, a receivable turnover of the BNL on the year 2065/66 is 9.77, which is very high in the study period whereas in the other study years it seems to be homogeneity. The table also shows that the company account receivable is in between 57823000 to 124178000 that is very positive signal for the company because collection of sales over than 80 percent in relevant year is a satisfactory situation for the company.

4.1.5 Analysis of Account Receivable to Cash and Bank Balance

Cash and bank balance measures the relationship between level of cash and bank to AR over a period of time. The greater the AR the better the turnover would be provided that, cash and bank balance can be maintained at a desirable level. The following table shows the relationship between AR to cash and bank balance.

Table 4.8: Analysis of Account Receivable to Cash and Bank Balance

Fiscal year	AR(Rs.)	cash and bank balance(Rs.)	% of AR
2062/63	88039000	5335000	6.06
2063/64	124178000	13755000	11.08
2064/65	80845000	1917000	2.37
2065/66	63657000	35926000	56.44
2066/67	52823000	3464000	6.56
Average			16.50

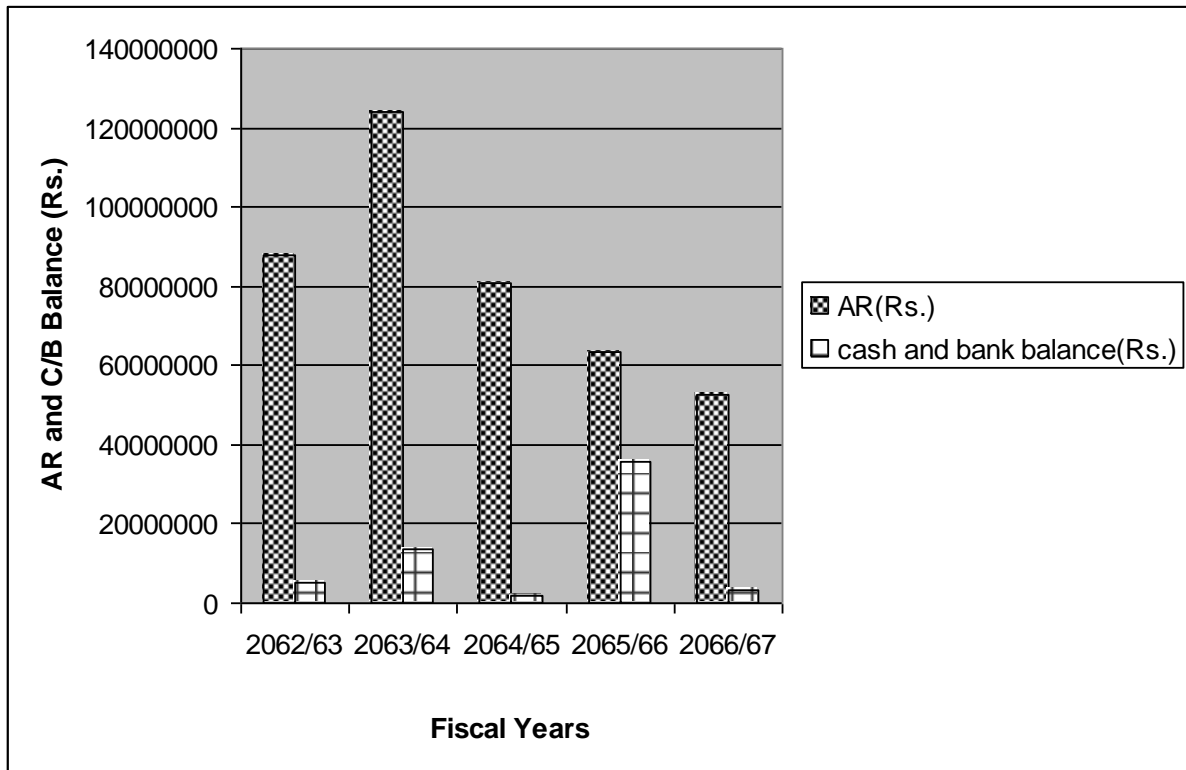
Source: Audited Balance Sheet of BNL for the year 2062/63 - 2066/67

The above table shows the analysis of account receivable to cash and bank balance in the study period. It clearly shows that percentage of AR is in fluctuating trend i. e. 6.06 percent, 11.08 percent, 2.37 percent, 56.44 percent and 5.56 percent respectively for year 2062/63, 2063/64, 2064/65, 2065/66, and 2066/67. During the study period cash and bank balance is not homogeneity i.e. from 2.37% and 56.44%. The amount of cash and bank balance with respect to account receivable is minimum which shows that the management is less concerned in speed of the collections of account receivables. By this situation company is suffered from the deficit of cash balance to meet its current liabilities and also shows that management has taken semi liberal credit policy of sales of goods.

Evaluating this situation, cash and bank balance is neither so good nor so bad. It is moderately satisfactory. The percentage of the AR on cash and bank balance is

not satisfactory in Corporation. Thus, we can say that, higher the account receivable caused lower cash balance and vice versa. Thus, management should not adopt strength policy to increase cash balance to maintain at a desired level of cash balance.

Figure 4.6: Graphical Presentations between Account Receivable and Cash and Bank Balance



The above bar diagram shows the relation of account receivable with cash and bank balance. In the figure it is seen that the account receivable with cash and bank balance. In the figure it is seen that the account receivable except in the year 2063/64 is in decreasing trend and cash and bank balances are in fluctuating trend. It is minimum in the year 2064/65 and maximum in the year 2065/66. But Cash and Bank balance is minimum in the year 2064/65 and maximum in the year 2065/66.

4.1.6 Analysis of Cash and Bank Balance to Current Assets

The ratio directly affects the cash management of the company. Lower ratio shows the sound liquidity management of the company it is calculated by cash and bank balance divided by current assets, which is shown in following table.

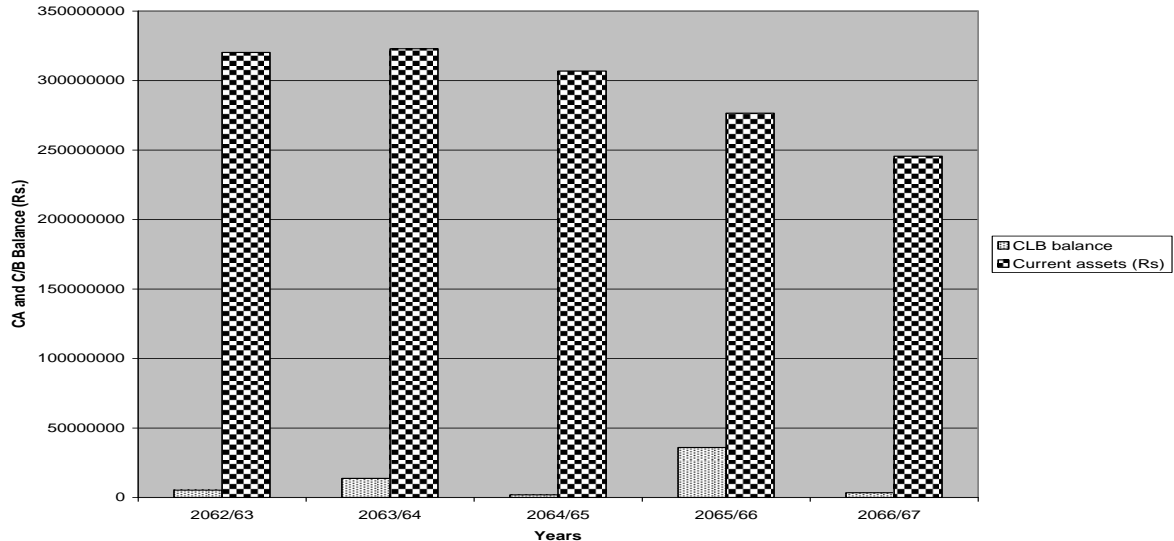
Table 4.9: Analysis of Cash and Bank Balance to Current Assets

Fiscal year	C&B balance	Current assets (Rs)	% of C&B on CA
2062/63	5335000	320235000	1.6
2063/64	13755000	322913000	3.07
2064/65	1917000	306832000	0.42
2065/66	35926000	276519000	8.24
2066/67	3454000	245552000	0.74
Average			2.694

Source: Audited Balance Sheet of BNL for the year 2062/63 - 2066/67

Above table shows the percentage of Cash and Bank balance to Current Assets of the company. Above table indicates that the cash and bank balance with respect to current assets is in fluctuating trend. During the study period it is the lowest 0.42 percent for the year 2064/65 and the highest 8.24 percent in the year 2065/66. On an average the projection of cash and bank balance to current assets for the study period is 2.694 percent while comparing with the average it is found that the percentage of cash and bank balance to current assets for the year except 2063/64 and 2065/66 are lower. Thus it can be said that the cash position of BNL is not good.

Figure 4.7: Graphical Presentations between Cash Balance and Current Assets



The above diagram shows the graphical relation between current assets and bank balance. In the figure, it is seen that the current assets are in fluctuating trend over the study period whereas the cash and bank balance is also in the fluctuating trend. The figure also clearly shows that portion of cash and bank balance with comparing its current assets which are very low.

4.1.7. Analysis of Cash and Bank Balance to Total Assets

The higher ratio indicates the lower risk and profitability whereas lower ratio indicates higher risks and higher profitability. It is calculated dividing cash and bank balance by total assets which is shown in below.

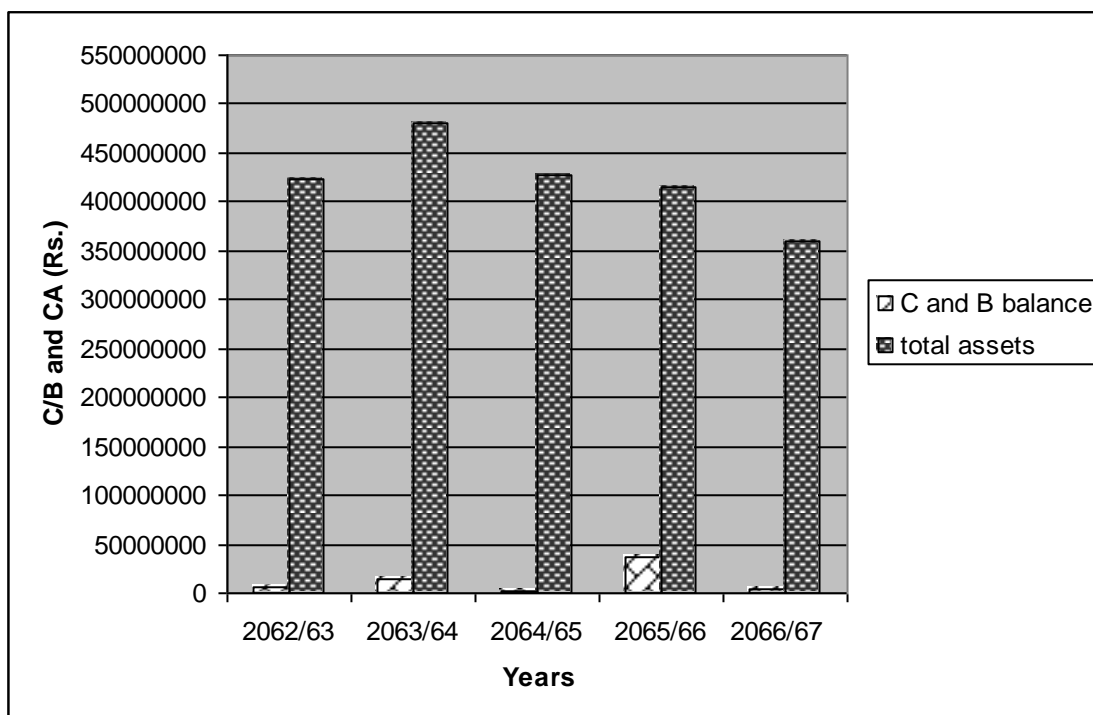
Table 4.10: Analysis of Cash Management and Bank Balance to Total Assets

Fiscal year	Cash and Bank Balance (In Rs.)	Total Assets (In Rs.)	% of Cash and Bank Balance on Total Assets
2062/63	5335000	423435000	0.52
2063/64	13755000	479642000	1.55
2064/65	1917000	427428000	0.20
2065/66	35926000	415772000	3.43
2066/67	3464000	359881000	0.77
Average			1.29

Source: Annual Report of BNL for the year 2062/63 - 2066/67

The above table shows the percentage of cash and bank balance to total assets of BNL. The ratio represents the proportion of cash and bank balance to total assets investments of BNL of study period. In BNL, the percentage of cash and bank balance to total assets is in the fluctuating trend. The ratio varies from minimum 0.52 percent to maximum 3.43 percent in the year 2062/63 and 2065/66 respectively. It has average ratio of 1.29 percent which seems very low for the company BNL. On the average 1.29 percent during the study period which is greater than in the year i.e. 2062/63, 2064/66, and 2066/67. Cash is required for day to business operation. Cash shortage for the firm means, firm is not able to invest in golden opportunities.

Figure 4.8: Graphical Presentation between Cash and Bank Balance and Total Assets



Above bar diagram shows the relation between cash and bank balance and total assets. In the figure it is seen that the total assets are in decreasing trend over the study period except in the year 2063/64 whereas cash and bank balances are in fluctuating

trend. The figure clearly shows the proportion of cash and bank balance with comparing to its total assets.

4.1.8 Analysis of Cash and Bank Balance to Current Liabilities

Among the techniques of measuring company's liquidity the ratio of cash to current liabilities may also be used as index of cash management. This ratio indicates the amounts of cash (in percentage) available to pay the current obligation of the firm. In general a low percentage of cash to current liabilities may be regarded as a favorable indicator. However, a very low ratio is not desirable as it may lead to corporate solvency. The table shows the level of cash in relation to current liabilities of Bottlers Nepal limited.

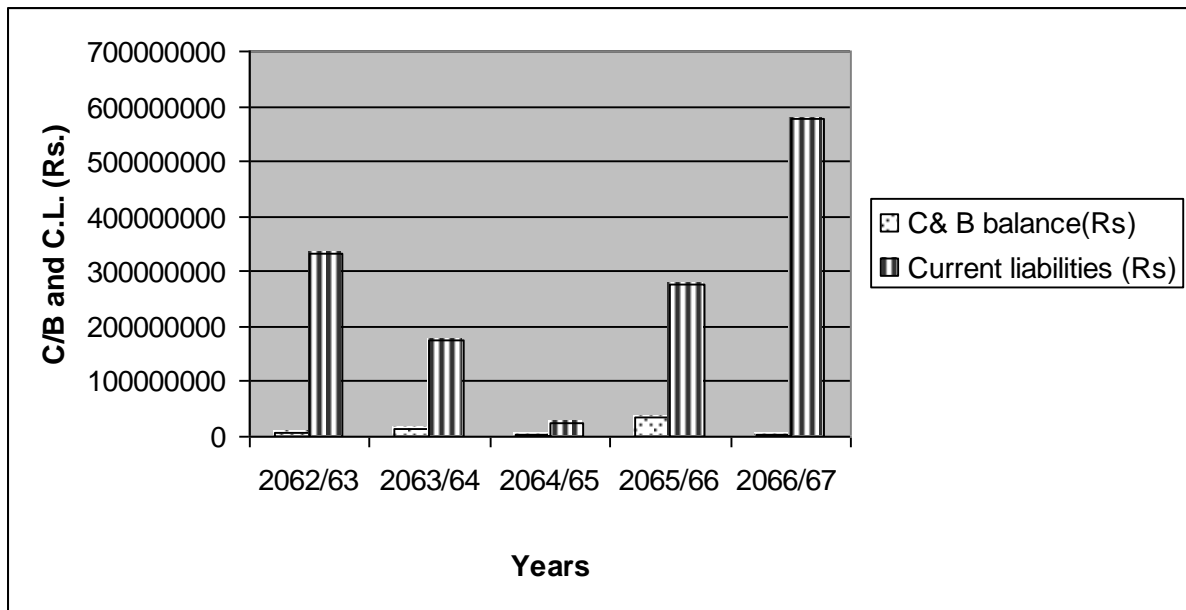
Table 4.11: Analysis of Cash and Bank Balance to Current Liabilities

Fiscal year	C & B balance(Rs)	Current liabilities (Rs)	% of C & B on CL
2062/63	5335000	332848000	1.60
2063/64	13755000	174022000	7.90
2064/65	1917000	22891000	0.84
2065/66	35926000	275483000	13.04
2066/67	3464000	576400000	6.01
Average			5.88

Source: Annual Report of BNL for the year 2062/63 - 2066/67

From the above table the lowest ratio i.e. 0.84 percent for the fiscal year 2064/65 and highest ratio i.e. 13.04 percent for the fiscal year 2065/66. In the fiscal year 2062/63, 2063/64 and 2066/67, the levels of cash balance to current liabilities are 1.6, 7.90 and 6.01percent respectively. The ratio is in fluctuating trend during the study period. Thus, it can be said that the BNL has face the problem of cash management. The average percentage of Cash and Bank Balance on Current Liabilities is 5.88.

Figure 4.9: Graphical Presentations between Cash and Bank Balance and Current Liabilities



Above bar diagram shows graphical presentation between current liabilities and cash and bank balance. In the figure, it is seen that the current liabilities are in fluctuating trend, it is minimum in the year 2063/64. There is also fluctuating trend in cash and bank balance. The portion of cash and bank balance with comparison to current liabilities are very low.

4.2 Analysis of Data by Statistical Tools

4.2.1 Fitting the Straight Line Trend by Least Square

Spreadsheet for variations in cash balance to analyze the data by using least square method is Fitting the Straight Line Trend by Least Square. Let us assume that the fiscal year is 'X' and cash balance is 'Y'. if we keep the fiscal year ranking from 1 to 5 than number of observation would be 5. Similarly, cash balance 'Y' would be kept in four figures i.e. in Rs. to make calculation easier.

So that the straight line trend $Y_c = a + bx$

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

Where,

$$a = \frac{\sum Y}{N}$$

$$b = \frac{\sum XY}{\sum X^2}$$

$$X = (X - \bar{X})$$

Table 4.12: Least Square Spreadsheet between FY and Cash and Bank Balance

Fiscal Year	Cash balance in Rs. (000) (Y)	X - \bar{X}	X²	XY
2062/63 (1)	5335	-2	4	-10670
2063/64 (2)	13755	-1	1	-13755
2064/65 (3)	1917	0	0	0
2065/66 (4)	35926	1	1	35926
2066/67 (5)	3464	2	4	6928
$\bar{X} = \frac{\sum X}{N}$	$\sum Y = 60397$	$\sum X = 0$	$\sum X^2 = 10$	$\sum XY = 18429$

Source: Annual Report of BNL for the year 2062/63 - 2066/67

$$\bar{X} = \sum x/N = 15/5 = 3$$

$$a = \sum y/N = 60397/5 = 12079.4$$

$$b = \sum XY/\sum X^2 = 18429/10 = 1842.9$$

$$Y_c = 12079.4 + 1842.9X$$

This trend line shows the positive figure of cash balance for future. The annual rate of increment of cash balance is same to be $1842.9 \times 1000 = 1842900$.

To predict the future cash balance fitting from the above calculated cash trend line in the following table for future four year. Calculating the future Trend analysis of the cash balance from the fiscal year 2067/68 to 2070/71.

Table 4.13: Future Trend Line of Cash Balance

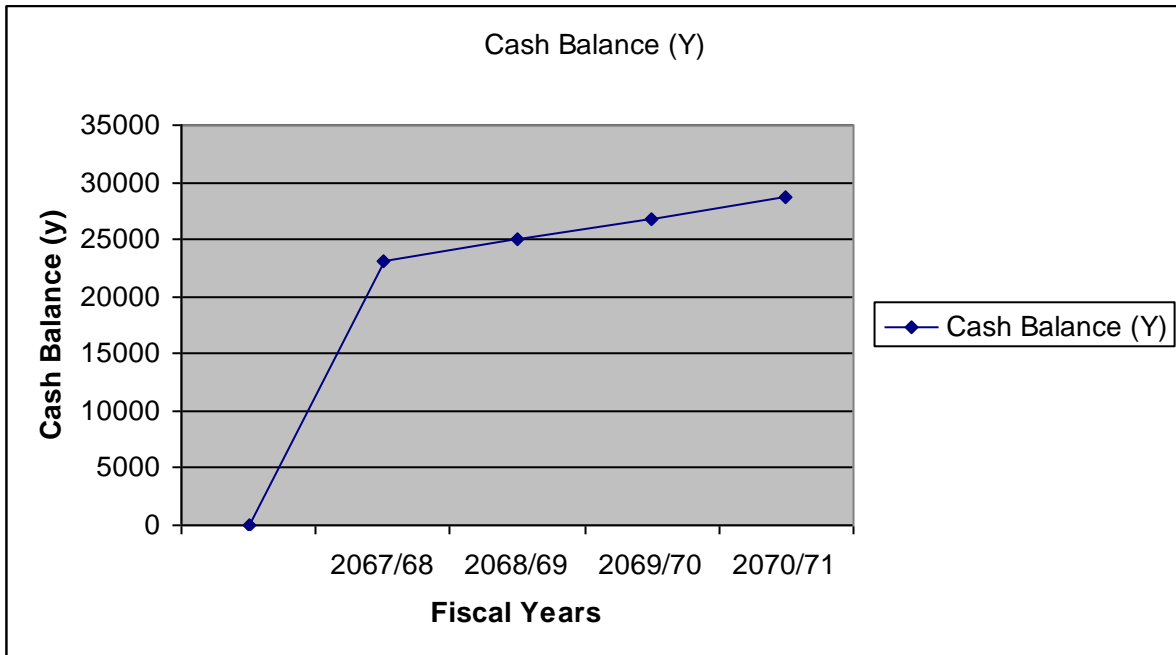
Fiscal	X	Trend line	Cash
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Year		$Y_c = 12079.4 + 1842.9 X$	Balance (Y)
2067/68 (6)	6	$Y_c = 12079.4 + 1842.9 \times 6$	23136.8
2068/69 (7)	7	$Y_c = 12079.4 + 1842.9 \times 7$	24979.7
2069/70 (8)	8	$Y_c = 12079.4 + 1842.9 \times 8$	26822.6
2070/71 (9)	9	$Y_c = 12079.4 + 1842.9 \times 9$	28665.5

By the help of fit line trend in the FY 2067/68 will be cash balance 23136.8 thousand. Similarly 2497.7, 26822.6 and 28665.5 thousand cash balance is for the year 2068/69, 2069/70 and 2070/71 respectively.

In the conclusion the cash generated trend is in increasing trend which implies cash will be more in future than in the present..

Figure 4.10: Future Trend of Cash Balance



The trend line shows that cash balance will be in increasing trend in future.

4.2.2 Correlation Coefficient between Cash/Bank Balance and Actual Sales

To find correlation between sales and cash/bank balance Karl Pearson's coefficient of correlation (r) is determined. For this purpose actual sales (X) are assumed to be dependence variables and cash balance (Y) are assumed to be independent variable. At first, it is assumed that actual sales will increase as cash balance will increase or vice versa. It means these be positive correlation between cash balance and actual sales. The significance of correlation ' r ' is tested with probable error or ' r '.

Table 4.14: Correlation 'r' between Actual Sales and Cash Balance (in Rs. 000)

Fiscal Year	Actual Sales (X)	Cash Balance (Y)	X - \bar{X} (U)	Y - \bar{Y} (V)	U ²	V ²	UV
2062/63	609654	5335	-12850.8	-6744.4	165143060.6	45486931.36	866709305.52
2063/64	632114	13755	9609.2	1675.6	92336724.64	2807635.36	16101175.52
2064/65	614739	1917	-7765.8	-10162.4	60307649.64	103274373.8	78219165.92
2065/66	621827	35926	-677.8	23846.6	459412.84	568660331.6	-16263225.48
2066/67	634190	3464	11685.2	-8615.4	136543899	74225117.16	-100672672.1
Total	$\Sigma X = 3112524$	$\Sigma Y = 60397$	$\Sigma U = 0$	$\Sigma V = 0$	$\Sigma U^2 = 454790746.8$	$\Sigma V^2 = 794454389.3$	64055379.38

Source: Audited Balance Sheet of BNL for the year 2062/63 - 2066/67

$$\bar{X} = \frac{\Sigma X}{N} = \frac{3112524}{5} = 622504.8$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{60397}{5} = 12079.4$$

$$r = \frac{\Sigma UV}{\sqrt{\Sigma U^2 \times \Sigma V^2}} = \frac{64055379.38}{\sqrt{454790746.8 \times 794454389.3}} = 0.107 \approx 0.11$$

$$\therefore r = 11\%$$

We have standard deviation of actual sales X

$$\sigma_x = \sqrt{\frac{\Sigma(X - \bar{X})^2}{n}} = \sqrt{\frac{957790746.8}{5}} = 9537.20$$

Similarly, standard deviation of cash balance Y

$$\sigma_y = \sqrt{\frac{\Sigma(Y - \bar{Y})^2}{n}} = \sqrt{\frac{794454389.3}{5}} = 12605.19$$

The value of 'r' 0.107 i.e. 11% shows that there is lower positive correlations between cash and sales. The test of significant of the value of 'r' shows that there is significant positive relationship between the cash balance and sales.

i.e. P.E. of 'r'

$$r = \frac{0.6745[1 - (0.107)^2]}{\sqrt{5}} 0.2981917 = 0.30$$

Since, $r < \text{P.E. 'r'}$ the value of 'r' is not at all significant so it is doubtful to say that whether cash balance, will increase actual sales or vice versa.

A regression line can also be fitted to show the degree of relationship between actual sales and cash and bank balance. Cash balance can be forecasted by the value of actual sales. For this purpose cash balance and actual sales have been assumed interrelated economic variables. So, the regression line of sales (X) on cash balance (Y) is

$$X - \bar{X} = r \cdot \frac{\sigma_X}{\sigma_Y} (Y - \bar{Y}), \quad \bar{X} = 622504.8, \quad \bar{Y} = 12079.4$$

$$X - 622504.8 = 0.107 \times \frac{9537.20}{12605.19} (Y - 12079.4)$$

$$\text{or, } X - 622504.8 = 0.08096 (Y - 12079.4)$$

$$\text{or, } X - 622504.8 = 0.08096Y - 977.91$$

$$\therefore X = 0.08096Y + 621526.89$$

This equation shows that sales will be increased by 0.0809 per Rs. increases in cash balance.

Next the regression line of cash balance (Y) on actual sales (X) or Y on X is as under:

$$Y - \bar{Y} = r \cdot \frac{\sigma_Y}{\sigma_X} (X - \bar{X})$$

$$Y - 12079.4 = 0.107 \times \frac{12605.19}{9537.20} (X - 622504.8)$$

$$\text{or, } Y - 12079.4 = 0.1414X - 88034.92$$

$$\therefore Y = 0.1414X - 75955.52$$

Thus, an assumption that cash balance is a function of sales shows that per Rs. increases in sales by 0.1414 per Rs. increases in cash balance.

4.2.3 Fitting the Straight Line Trend by Least Square for Sales and Receivables

Time element is also important factor because with the passage of time sales achievements, account receivables changes can be expressed by the component of time series. A straight line trend by the method of least square will show the relationship between years (time) and ratio in time of account receivables and sales.

Table 4.15: Fitting the Straight Line Trend by Least Square for Sales and Receivable

Fiscal Year (X)	Ratio in time (Y)	$(X - \bar{X})$	X^2	ΣXY
2062/63 (1)	6.92	-2	4	-13.84
2063/64 (2)	5.09	-1	1	-5.09
2064/65 (3)	7.60	0	0	0
2065/66 (4)	9.77	1	1	9.77
2066/67 (5)	8.22	2	4	16.44
$\Sigma X = 15$	$\Sigma Y = 37.60$	$\Sigma X = 0$	$\Sigma X^2 = 10$	$\Sigma XY = 7.28$

Source: Annual Report of BNL for the year 2062/63 - 2066/67

$$\bar{X} = \frac{\Sigma X}{N} = \frac{15}{5} = 3$$

X = No. of observation

Y = Time in ratio of AR and sales straight line trend

$$Y_c = a + bx$$

$$a = \frac{\Sigma Y}{n} = \frac{37.60}{5} = 7.52$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{7.28}{10} = 0.728$$

$$\text{Therefore, } Y_c = 7.52 + 0.728X$$

This trend line shows that sales are directly affected by the account receivable in future.

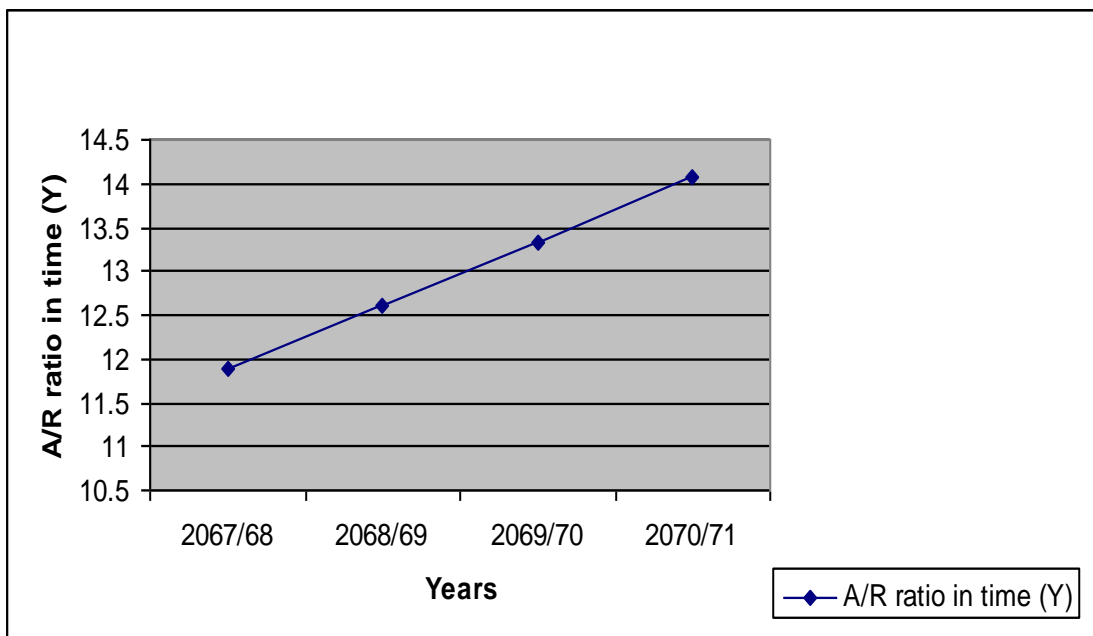
To predict the future trend for sales and receivable, fitting the above calculated sales and receivable trend in the following table for future four years. Calculating the future Trend analysis of the cash balance from the fiscal year 2067/68 to 2070/71.

Table 4.16: Future Trend line for Sales and Receivable

Fiscal year	X	Trend line	A/R ratio in time (Y)
2067/68 (6)	6	$Y_c = 7.52 + 0.728 \times 6$	11.89
2068/69 (7)	7	$Y_c = 7.52 + 0.728 \times 7$	12.62
2069/70 (8)	8	$Y_c = 7.52 + 0.728 \times 8$	13.34
2070/71 (9)	9	$Y_c = 7.52 + 0.728 \times 9$	14.07

By the help of above data presentation indicates that sales and receivables both are in increasing trend for future simultaneously. If sales will increase, the receivable will also increase.

Figure 4.11: Future Trend Line of A/R and Sales by A/R Turnover Ratio



The trend line shows that A/R turnover ratio in future will be in increasing trend that means sales and receivable will be in increasing in future.

4.2.4 Analysis of Correlation Coefficient between Sales and Account Receivables

To find out the correlation between sales and receivable, Karl Pearson's coefficient correlation 'r' is determined. For this purpose sales and receivables are assumed to be interrelated economic variables. So both receivables relations are explored. Its assumed receivables (X) are dependent variables and sales (Y) are independent variables. It is assumed that sales will increase as receivables increases or vice-versa. It means that there should be positive relationship between sales and receivables.

Table 4.17: Correlation 'r' between Receivables and Sales (in Rs. 000)

Year	Receivables (X)	Sales (Y)	$Y - \bar{Y}$ (y)	Y^2	$X - \bar{X}$ (x)	Σxy	X^2
2062/63	88039	609654	-12850.8	165143060.6	6130.6	-8783114.48	37584256.36
2063/64	124178	63244	9609.2	92336724.6	42269.6	406177040.3	1786719084
2064/65	80845	614739	-7765.8	60307649.6	-1063.4	8158151.72	1130819.86
2065/66	63657	621827	-677.8	459412.8	-18251.4	12370798.92	333113602
2066/67	52823	434190	11685.2	13654389.9	-29085.4	-339868716.1	845960493.2
	$\Sigma X =$ 409542	$\Sigma Y =$ 3112524	$\Sigma y = 0$	$\Sigma Y^2 =$ 454790746.8	$\Sigma x = 0$	$\Sigma xy =$ 8154160.36	$\Sigma X^2 =$ 3004508255

Source: Annual Report of BNL for the year 2062/63 - 2066/67

$$\bar{X} = \frac{\Sigma X}{N} = \frac{409542}{5} = 81908.4$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{3112524}{5} = 622504.8$$

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \times \Sigma y^2}} = \frac{8154160.16}{\sqrt{3004508255 \times 454790746.8}} = \frac{8154160.16}{1168940783} = 0.00698$$

The value of 'r' + 0.00698 shows that there is lowest positive correlation between sales and receivables. The test of significant of the value shows there is significant positive relation between sales and receivables.

The probable error of 'r'

$$r = * \frac{(1 - r^2) \times 0.6745}{\sqrt{n}} = \frac{[1 - (0.00698)^2] \times 0.6745}{\sqrt{5}} = 0.3016$$

$$6 \times \text{P.E. 'r'} = 6 \times 0.3016 = 1.8098$$

The probable error of 'r' is greater than correlation coefficient and then also greater value of 6 P.E. So, $6 \times \text{P.E.} > r$ the value of r is lowest. So that, there is no significant and no relationship between sales & account receivables. We can say that if sales will increase, receivables will not increase or vice versa. A regression line can also be fitted to show the degree relationship between sales and account receivables. For this purpose receivable have been assumed to be dependent on sales.

So that, the regression line of receivable (x) on sales (y) is as follows:

$$X - \bar{X} = r \frac{\sigma_x}{\sigma_y} (Y - \bar{y})$$

$$\sigma_x = \sqrt{\frac{\sum(X - \bar{X})^2}{n}}, \sqrt{\frac{3004508255}{5}}, 24513.295$$

$$\sigma_y = \sqrt{\frac{\sum(Y - \bar{Y})^2}{n}} = \sqrt{\frac{4547907468}{5}} = 9537.198$$

$$X - 84908.4 = 0.00698 \times \frac{24573.295}{9537.198} (-y - 622504.8)$$

$$X - 81908.4 = 0.018y - 11195.43$$

$$X = 0.018y + 70712.97$$

$$X = 70712.97 + 0.018y$$

Thus, for Rs 1. increases in sales, the amount receivable increases by Rs. 0.018 .

Again, the regression line of sales Y on receivable X is as follows:

$$Y - \bar{Y} = r \frac{\sigma_y}{\sigma_x} (X - \bar{X})$$

Or,

$$Y - 622504.8 = 0.00698 \times \frac{9537.198}{24513.295} (X - 81908.4)$$

Or, $Y - 622504.8 = 0.00272X - 222.435$

Or, $Y = 622282.365 + 0.00272X$

4.2.5 Analysis of Correlation Coefficient between Account Receivables and Cash and Bank Balance

To find out the correlation between receivables, cash and bank balance Karl Pearson's coefficient of correlation 'r' is determined. For this purpose account receivable and cash and bank balance are assumed to be interrelated economic variables let us assume receivables X is dependent variable and cash and bank balance are independent variables.

Table 4.18: Correlation between Account Receivable and Cash & Bank Balance (Rs. in '000')

Fiscal year	A/R (X)	C/B balance (Y)	$X - \bar{X}(U)$	$Y - \bar{Y}(V)$	U^2	V^2	UV
2062/63	88039	5335	6130.6	-6744.4	37584256.36	45486931.36	-41347218.64
2063/64	124178	13755	42269.6	1675.6	1786719084	2807635.36	70826941.46
2064/65	80845	1917	-1063.4	-10162.4	1330819.56	103274373.3	10806696.16
2065/66	63657	35926	-18251.4	23846.6	333113602	568660331.6	-435233835.2
2066/67	52823	3464	-29085.4	-29085.4	845960493.2	74225117.16	250582355.2
Average	$\Sigma X =$ 409542	$\Sigma Y =$ 60397	$\Sigma U = 0$	$\Sigma V = 0$	$\Sigma U^2 =$ 3004508256	$\Sigma V^2 =$ 794454389.3	$\Sigma UV =$ -144365061

Source: Annual Report of BNL for the year 2062/63 - 2066/67

$$\bar{X} = \frac{\sum X}{N} = \frac{409542}{5} = 81908.4$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{60397}{5} = 12079.4$$

$$r = \frac{\sum UV}{\sqrt{\sum U^2 \times \sum V^2}} = -\frac{144365061}{\sqrt{3004508256 \times 7944543893}} = -0.09344$$

The value of 'r' is -0.09344 shows that there is negative correlation between receivables and cash and bank balance. But the negative correlation is not only due to chances. The test of significance negative and the value of 'r' shows either there is a significance negative correlation or not between account receivables and cash and bank balance.

$$\text{The probable error P.E. (r)} = \frac{0.6745(1 - r^2)}{\sqrt{n}} = \frac{0.6745 [1 - (0.09344)^2]}{\sqrt{5}} = 0.299$$

$$\text{P.E. (r)} = 6 \times 0.299 = 1.794$$

Since the value of $r < 6\text{P.E.}$ the value of r is not at all significant so that it is doubt to say that weather receivable increases will increases cash balances and vice versa. So that there is no extra evidence to prove that either receivable will increases cash and bank balance.

4.3 Analysis of Cash Flow Statement of BNL

Cash flow statement of the company significances the movements of cash in and out of company. Inflow of cash is known as source of cash and outflow is called use of cash. This statement also depicts the factors for such inflow and gets flow of cash. It virtually takes the nature and character of cash receipt and cash payments. The basic information used in the preparation of this statement differs from that which is used in recording cash receipts and cash payments. Cash inflow and outflow are explained and shown in cash flow statement before highlighting its nature and utility. The actual cash flow statement is financing activities and cash from investing activities for the FY 2062/63 to 2066/67.

Table 4.19: Calculation of Cash Flow Statement (in Rs. '000')

	2062/63	2063/64	2064/65	2065/66	2066/67
Cash flows from Operating Activities					
1. Profit/(loss) before taxation	45008	45009	43876	30963	(27279)
Adjustment					
Add: Depreciation		57330			
Depreciation	55823	6041	49176	64166	60228
Amortization	3045	1966	6602	503	532
Interest expenses	284	3	265	1329	8875
Provision for Bonus & Staff Quarter	7019	7019	6928	4889	-
Other non-cash expenditures	-	3485	-	2544	3989
Loss/(Profit) on sale of fixed Assets	1	-	-	-	(385)
2. Cash flows from Operation before Working Capital Changes	111179	120853	106847	104394	45960
Decrease (Increase) in current assets	73575	24505	(117358)	22427	(63198)
Increase/ (Decrease) in current liabilities	(55400)	(99311)	47201	46302	205820
Interest paid	(284)	(284)	(265)	(929)	(8814)
Payment of Gratuity	(264)	(398)	(40)	(1900)	(438)
Payment of bonus and staff quarter	(4701)	(4701)	(7615)	(6928)	(4427)
Taxes paid in respect of earlier years	(6300)	(633)	(556)	-	(1337)
Special fees paid	-	(9488)	(556)	-	-
Net cash flows from operating activities	118089	30823	28214	163366	173526
B. Cash flows from financing activities					
Sale/(purchase) of fixed assets/investments	(108103)	(7999)	(32457)	(36433)	(25755)
(Addition)/Deletion to capital work in progress	-	-	-	(176107)	(204204)
Others (capitalization of deferred expenses on bottles & crates)	16001	-	-	11411	-
Additional to deferred expenditure	-	(4660)	(7595)	-	-
Net cash flows from investing activities	(92102)	(12659)	(40052)	(201129)	(229959)
C. Cash Flows from Financing Activities					
Borrowing/(repayment) of bank loan	(25000)	-	-	72000	72000
Interest paid	(200)	-	-	(400)	-
Others	(368)			172	
Dividend distribution	-	(9744)	-	-	-
Net cash flows from financing activities	(25578)	(9744)	-	71772	72000
Net increase/(decrease) in cash (A+B+C)	420	8420	(11838)	34009	(128433)
Cash and cash equivalents at the beginning of the year	4915	5335	13755	1917	35925
Cash and cash equivalents at the end of the year	5335	13755	1917	35926	3464

Source: Cash Flow Statement of BNL for the year 2062/63 - 2066/67

Bottler Nepal Limited
Balance sheet
For the year 2063 - 2067 (In Rs. '000)

Assets	2062/63	2063/64	2064/65	2065/66	2066/67
<u>Current Assets</u>					
Inventory	226861	18498	224070	176936	189256
Account receivable	88039	124178	80845	63657	52832
Cash and bank balance	5335	13755	1917	35926	3464
<u>Total current Assets</u>	320235	322913	306832	276519	245552
Fixed Asset	103200	156729	120596	139253	114329
<u>Total Assets</u>	423435	479642	427428	415712	359881
<u>Current Liabilities</u>					
Creditors	58165	54296	72333	35336	46302
Other current liabilities	274683	119726	156577	246147	230098
<u>Total current liabilities</u>	332848	174022	228910	275483	276400
Debt and equity	90587	305620	198518	140289	83481
<u>Total liabilities</u>	423435	479642	427428	415772	359881

The actual cash flow statement is presented in Table 4.19: Calculation of Cash Flow Statement. Cash from operating activities, cash from investing activities and cash from financing activities for the fiscal year 2062/63 to 2066/67 is calculated. The above table shows the detailed calculation of cash from operating activities, investing activities and financing activities and net cash flow statement for the year end or closing cash balance. It is seen that the amount of depreciation of fixed assets is in fluctuating trend all over the study years. Above table shows that the current assets and current liabilities are also in fluctuating trend. From this

analysis, we can say that the amount of operating profit is in increasing trend except in the FY 2063/64 and 2064/65. It is seen that the operating balance of cash are in positive figure.

In investing activities, it is seen that sales of fixed assets amounts is in fluctuating trend and also in the purchase of fixed assets, it is in fluctuating trend. Company sales/purchase/investments are minimum amount of Rs. 25755 in FY 2066/67 and maximum amount of Rs. 108103 in FY 2062/63. It is also in fluctuating trend. Deletion to capital work in progress minimum amount of Rs. 176107 in the FY 2065/66, maximum Rs. 204204 in the FY 2066/67 and non or zero balance in the FY 2062/63, 2063/64 and 2064/65. Deferred expenditure is Rs.4660 in FY 2063/64 Rs. 7595 in FY 2064/65 and none of other years. Similarly capitalizations of deferred expenses are 16001, and Rs. 11411 in the FY 2062/63 and 2065/66 respectively and zero balance other three years.

From the table it can be seen that, the company had not issued share capital in the all study period it has fallen down in long term borrowing with company to its succeeding year. Payment or borrowings of Bank loan is also fluctuating.

After the adjustment of financing items, we can conclude that BNL's financial position is not so good. It is poor only due to inefficient cash management

4.4 Data Analysis of the Questionnaire

According to the result received from the questionnaire which is carried out to the different members of the BNL who are working in different post the following answers have been received.

Questions	Answers received from the respondents			
	Mr. Narayan Adhikari (Administration)	Mr. Ram Thapa (Account)	Mr. Hari Shrestha (Procurement)	Ms. Sita Dahal (Customer Care)
1. Does your organization use	Yes	Yes	Yes	Yes

"Cash Budget"?				
2. If "yes" how often do you prepare a cash budget?	Monthly	Monthly	Monthly	Monthly
3. Do you have uniform terms of credit allowed to customers?	Yes	Yes	Yes	Yes
4. What methods do you follow to forecast your cash requirements?	Cash Budget Method	Cash Budget Method	Cash Budget Method	Cash Budget Method
5. What policy does your organization follow in respect of sales?	Cash and Credit Sales	Cash and Credit Sales	Cash and Credit Sales	Cash and Credit Sales
6. If "yes" then what is the rate of interest charged?	12 Percent	12 Percent	12 Percent	12 Percent
7. If "yes" what is the period of credit allowed to customers?	Net /60 days	Net /60 days	Net /60 days	Net /60 days
8. Do you have a policy of charging interest on delayed payments? Please specify [] %	Yes	Yes	Yes	Yes
9. Does your company offer cash discount to the customers for early payment?	Yes	Yes	Yes	Yes
10. If "yes" what is the rate of discount percent? Please specify <input type="text"/>	5 Percent	5 Percent	5 Percent	5 Percent
11. What is the cash collection cycle in your company? Please specify <input type="text"/>	100 days	100 days	100 days	100 days

12. Is there any over due amount to the collection?	Yes	Yes	Yes	Yes
13. If "yes" what is your opinion may be the causes of over-due amounts receivables?	Defective System of Credit Collection	Customer Attitudes	Customer Attitudes	Defective System of Credit Collection
14. What are your suggestions to improve cash collection system?	Charging higher rate of interest	contact on telephone	initiate compromise	contact on telephone
15. In monitoring the payment behaviors of your customers which methods do you apply?	Average Collection Period Method	Average Collection Period Method	Average Collection Period Method	Average Collection Period Method
16. Do you have a system of collection system of advance payment from customers?	Yes	Yes	Yes	Yes
17. To what extent does your company take advantage of cash discount offered by bank arrangement?	Rarely	Rarely	Rarely	Rarely
18. Is your company able to discharge all short term liabilities on due date?	Shortage of Cash	Delayed payment by customer	Delayed Payment by customer	Shortage of Cash
19. Do you have practice leaving a portion of cash fund as optimum cash of bank balance?	Yes	Yes	Yes	Yes

Researchers have asked the questionnaire with four members of BNL and most of them have similar answer pattern which is highlighted below.

- The organization prepares Cash Budget monthly for determining cash requirement of cash inflows and outflows over a projected time period. This information helps the financing of these needs and exercise control over the cash and liquidity of the firm.
- Credit allowed to the customer is uniform in nature.
- Cash Budget method is used to forecast the cash requirement.
- Mostly the organization follow cash sells and sometime credit sales are also followed in 12 percent rate of interest to credit sales.
- Credit period of only sixty days are provided to customers.
- There is a policy of charging interest on delayed payments to customer.
- The customer also offered cash discount of 5 percents to the customer for early payment which encourages the customer for early payment is consider as one of the business strategy of the fast collection of cash from customer.
- Cash collection cycle of the company is found average 100 days.
- There is sometime over due amount in the collection of credit day to customer attitudes.
- The corporation follows telephone call and personal visits methods for quick collection of credit sales.
- Average collection Periods method is applied for monitoring the payment behavior of the customer.
- The corporation also has the system of collection of cash in advance.
- The organization rarely takes the advantages of Cash discounts offered by bank arrangement.
- Due to the shortage of cash and also delayed payment by customer the company is not able to discharge all short term liabilities on due date.

- The organization has the practice of leaving a portion of cash fund as optimum cash of bank balance.

4.5 The Main Findings of the Study are briefly described below:

Corporation purchase goods both in cash and credit depending up on the condition of cash balance, situation of time and nature of goods. Credit facilities provided by creditors are two month.

It is found that cash management of BNL is not effective. The company sells goods in cash and credit. The percentage of credit sales depends upon credits situation of time and nature of goods. Credit period is only fifty days provided to customers. The corporation follows telephone call and personal visit method for quick collection of account receivable. There is no systematic forecast of cash in the Corporation.

During the study period, it seems that main sources of cash of BNL are sales of goods and loan from bank. Besides this the Corporation receives miscellaneous income, like interest, commission, dividend and sale of fixed assets. Corporation uses cash at huge amount for purchase of commodities, paid bonus, interest, income tax, purchase of fixed assets; selling expenses etc. The corporation holds cash for transaction motives.

The basic objective of the study is to have insight over “cash management” of BNL and recommend some concrete suggestions for the improvement in view of analysis. Due to lack of good cash management, BNL is not able to provide necessary data, except annual balance sheet and profit and loss account.

The research design chosen for this study is descriptive and analytical. The data has been derived from annual report from fiscal year 2062/63 to 2066/067. So the nature of data used for the study is secondary in nature. The data derived from annual report of BNL is presented in required tabular form and presented in the graph or bar diagram. They are analyzed by using various financial techniques such as ratio analysis and average collection period. In course of preparing this thesis some of the questionnaire based on cash management of BNL, Researcher had asked some of the questions to the employees of different post of that company.

4.6. Major Findings

1. Cash management in the BNL is primarily based on the practices lacking in scientific approach. A more serious aspect of cash management has been the absence of systematic approach of cash planning and cash budgeting in BNL.
2. The BNL could not make the best use of available cash balance prudently.
3. Modern practices with respect to debt collection monitoring the payment behavior of customers and relevant banking arrangements in connection with collection of receivables have been virtually ignored by BNL.
4. The average cash turnover time in a year is found 136 times which is in fluctuating trend over the study period.
5. The average inventory conversion period into cash is found more than 4 months i.e. 128 days which is slow than cash turnover time.
6. The average cash conversion period is faster than average receivable period which is not a good signal for the purpose of managing cash.
7. Average cash conversion cycle takes 126 days i.e. little more than 4 months which is also normal signal for cash management or cash collection efficiency of company is very normal.
8. Management has taken liberal credit policy to sales of goods. Hence the cash and bank balance of the study period is minimum.
9. No optimum cash balance is maintained. The cash and bank balance with respect to current assets has been in fluctuating trend. Similar is the case with respect to the total assets.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Bottlers Company Limited was established on 2037 B.S. under the Private Company Act. After the five years, it was converted into Public Company Limited. This corporation has growing concern of greater rational importance in the area of providing goods and services to the public at large.

It is manufacturing company and industrial enterprise. It contributes significantly to the economic development of the country. However, BNL is found to be suffering from 'Cash Management'. So the objective of this study is to have true insight into its 'Cash Management'. An effort has been made in the study to provide a possible suggestive framework for the better cash management of BNL.

For the purpose of conducting this study, mainly the secondary data are used which constitutes mostly the balance sheet and profit and loss account. Besides this the information has been collected from the interview with the related persons of BNL, i.e. General Manager, Chartered Account (CA), Account Officers and Divisional Manager through the means of questionnaire.

This study use financial tools to accomplish the objectives. They are financial ratio analysis, correlations and regression for the relevant years.

5.1.1 Issue and Constraints

While analyzing the management of cash in BNL, some issues and constrains have been noticed which may be described as follows:

- i. **Absence of forecast and plan:** - It is observed that the cash management is less concerned in forecast of cash for the coming period. The cash forecasting is completely lacking in the corporation. The fluctuating trend of cash deficit reveals the fact clearly.

- ii. The lack of accurate and proper sales forecasts is one of the important constraints that affect the financial performance of the corporation. If the corporation forecasts the expected sales accurately, it can manage the various activities accordingly. For example, it can plan for capital, investment, requirement of current expenses and inventories etc.
- iii. The quality of management itself is a scarce factor in BNL. The performance of BNL exhibits that the management lacks basic knowledge of financial management.
- iv. Restrictive credit policy is one of the important constraints that affected the sales volume of the corporations. If it adopts liberal credit policy cash conversion period will be higher which is not good for the organization, so BNL should follow restrictive credit policy for the proper and efficient collection and use of the cash at the right time.
- v. Due to certain constraints in management, BNL denied to provide information except balance sheet and profit and loss account, which are not sufficient for analysis of cash management.

5.2 Conclusion

In conclusion, it can be said that cash management is an important part of the financial decision making.

Many factors or determinants such as nature of business, level of sales, credit terms, quality of customers, economic condition etc. have to be considered in cash management. Apart from the level of purchase, method of creating cash management, establish of credit terms, types of credit policy, motives for holding cash efficiency of cash management, cash cycle etc. are to be considered. Corporation must prepare cash budget to plan for and control cash flow.

Thus, for BNL it is necessary to highlight the importance of developing appropriate strategies for cash management in respect of:

1. Cash planning and cash budgeting in a formal basis so as to project cash surplus or cash deficit for a period not exceeding one year and broken up into shorter intervals.
2. Managing of cash flows so as to accelerate the inflows and as far as possible to decelerate out flows.
3. Optimizing the level of cash balance by matching the cost of holding excess cash and the danger of cash deficiency.
4. Investing idle cash balance taking into account the cost of administering investments in marketable securities.

5.3 Recommendations

Based on the findings of the analysis and the issues and constraints mentioned above, some practicable recommendations have been provided in the following page.

i. Efficient Management of Cash

Bottlers Nepal limited should have proper cash planning to estimate the cash receipts and payments. It helps to minimize the problem of deficit cash balance. Corporation should first identify the cash needs for operation. For this company should consider the various expenses it has to incur such as, purchase raw materials, payment to be made for wages, salaries, rent and power etc. In other words, it should forecast the cash needs for trading expenses, administrative and selling overheads for certain period of time, say one month. After identifying the cash needs, then the corporation should estimate the cash to be received. It could be estimated with the proper budgeting of cash sales and collection of credits. When the cash flows are forecasted, the corporation should then determine the minimum level of cash balance needed to the corporation. At the same time the seasonal requirement should also be considered.

ii. To Prepare Monthly Trial Balance Cash/Funds Flow Statements and Financial Reports:

Account receivable management is one of the basic components of current assets and management should give top priority for its management in the Corporation

since major share of company current assets has been occupied by account receivables. Account receivable can be managed efficiently by designing an appropriate receivable management programme. This programme has two main approaches in the first phase; the company should try to minimize account receivable by selling only in cash terms secondly, it should try to maximize collection efforts by different process restoring to various measures. That is to determine appropriate credit policy.

Not only that the BNL should follow suitable credit terms but also providing discount that is attractive to encourage payments earlier and at the same time make a comprehensive study of character, capacity, capital, collateral and conditions of all those customers or institutions that request credit from the company.

iv. Adopt Effective Credit Policy:

The company should have suitable credit policy to handle the cash management effectively. It should adopt liberal credit policy to increase the sales. Next, it should adopt strength credit policy especially for its staff and workers for effective credit collection. One of the reasons of lower turnover and high collection period arise due to more advances to company's employees.

v. Maintain Optimum Cash Balance:

BNL should maintain optimum cash balance by matching between surplus and deficiency of cash balance. As the size of the cash balance directly varies with peak period, slack period, and general economic factors and investment opportunities. The BNL should take all those situations, while determining optimum cash balance. During the peak period, slack period, and general economic factors and investment opportunities, the BNL should take all those situations, while determining optimum cash balance. During the peak period, while in the production those the company should hold more cash to make huge purchase for the fulfillment of domestic as well as international demand. Like this small cash or bank balance should be kept by the BNL in off season because of less purchase is made in off season. Moreover, in general economic conditions such as sugar flour and rice. Some time BNL get a

chance to take advantage of investment opportunity to purchase shares, debentures, marketable securities, when interest is expected to decline etc. The company should exploit those profitable opportunities and keep cash reserve to do so.

vi. Invest the Surplus Cash in Profitable Opportunities:

Company should manage its cash affairs in such a way as to keep cash balances at a minimum level and to invest the surplus cash funds in profitable opportunities.

vii. Prepare Cash Budget:

For an estimation of closing balance of cash, receipt of cash and payment of cash a cash Budget has to prepare. The following steps are considered for construction of a cash budget.

Step 1: To identify the sources of cash inflows (receipt) is the first step of cash budget. Normally the sources of a business are as follows:

- a) Beginning cash in hand and at bank
- b) Cash sale
- c) Cash collection from debtors
- d) Cash sales of fixed assets
- e) Interest and dividend received
- f) Issue of share and debenture
- g) Bank loan
- h) Loan from financial institutions

Step 2: To determine the cash out flow (payment) is the second step.

Following is the list of payment of a firm:

- a) Cash purchase
- b) Payment of the credit purchase
- c) Wages and salary payment

- d) Payment of manufacturing administrative and selling expenses
- e) Repayment of borrowed capital
- f) Payment for purchase of fixed assets
- g) Payment of other expenses

Step 3: To find out the closing balance: The closing balance of cash can get by the following way:

Closing balance of cash = Opening balance of cash + Receipt of cash- Payment of cash.

The specimen of a cash budget is given below:

Cash Budget for the Month.....

Beginning balance of cash		Xxxx
Add: Receipt	xxx	
Collection from debtors	xxx	
Sales of fixed assets	xxx	
Interest received	xxx	
Dividend received	xxx	
Collection from issuing shares	xxx	
Collection from issuing debentures	xxx	
Loan received	xxx	
Total receipt (A)		Xxxx
Less: Payment		
Cash purchase	xxx	
Wages and salaries	xxx	
Manufacturing overhead	xxx	
Administrative overhead	xxx	
Administrative overhead	xxx	
Selling overhead	xxx	
Interest	xxx	
Dividend	xxx	
Fixed assets purchases	xxx	
Repayment of borrowed capital	xxx	
Total Payment (B)		Xxxx
Closing Balance of cash (A-B)		Xxxx

viii. Investment in Marketable Securities:

There is close relationship between cash and marketable securities. Excess cash should normally be invested in marketable securities which can be conveniently and promptly converted into cash. The excess cash may build up during slack season but it

would be needed when the demand picks up. This excess cash during slack season is idle temporarily, but has predictable requirement later on next excess cash may be held as a buffer to meet unpredictable financial needs. The financial manager must decide about the portfolio of marketable securities in which the firm's surplus cash should be invested. A firm can invest its temporary transaction balance or precautionary balance of both, its primary criteria in selecting a security will be its quickest convertibility in to cash when the need for cash arises. In choosing these securities are safety maturity and marketability.

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APPENDIX - I

Questionnaire

(To study of the cash management of BNL of the respondent of Bottlers Nepal Limited)

Please answer the following questions putting a tick mark at the appropriate space. Some of the information cannot be given in objective which covers a wide area but the information provided by you will be more helpful for my study.

1. Does your organization use "Cash Budget"?
Yes No

2. If "yes" how often do you prepare a cash budget?
 - a. Annually
 - b. Semi-annually
 - c. Monthly
 - d. Weekly

3. Do you have uniform terms of credit allowed to customers?
Yes No

4. What methods do you follow to forecast your cash requirements?
Please rank 5 for the highest.
 - a. Cash Budget method.
 - b. Adjusted not income method
 - c. Ration analysis
 - d. Projected balance sheet method
 - e. Mathematical models

5. What policy does your organization follow in respect of sales?
 - a. Cash sales
 - b. Credit sales
 - c. Cash and credit sales

6. If "yes" then what is the rate of interest charged?

Please specify [] %

7. If "yes" what is the period of credit allowed to customers?
- a. net/7 days
 - b. net/15 days
 - c. net/30 days
 - d. net/60 days
 - e. net/90 days
8. Do you have a policy of charging interest on delayed payments?
- Yes No
9. Does your company offer cash discount to the customers for early payment?
- Yes No
10. If "yes" what is the rate of discount percent?
- Please specify
11. What is the cash collection cycle in your company?
- Please specify
12. Is there any over due amount to the collection?
- Yes No
13. If "yes" what is your opinion may be the causes of over-due amounts receivables?
- a. Customers attitudes
 - b. Problem of liquidity of the customers
 - c. Risk of loosing customers
 - d. Defective system of credit collection
 - e. Any other
14. What are your suggestions to improve cash collection system?
- a. Contact on telephone
 - b. Initiate compromise
 - c. Charging higher rate of interest

- d. Seek the help of collection agent
 - e. Any other
15. In monitoring the payment behaviors of your customers which methods do you apply?
- a. Account receivable turnover
 - b. Average collection period method
 - c. Days sales out standing
 - d. Any other-under binding
16. Do you have a system of collection system of advance payment from customers?
- Yes No
17. To what extent does your company take advantage of cash discount offered by bank arrangement?
- a. Always
 - b. Rarely
 - c. Never
18. Is your company able to discharge all short term liabilities on due date?
- a. Shortages of cash
 - b. Practice
 - c. Delayed payment by customers
 - d. Decline to cash sales
 - e. Any other
19. Do you have practice leaving a portion of cash fund as optimum cash of bank balance?
- Yes No

APPENDIX – II

Annual Report of Bottlers Nepal limited

Cash Flow Statement (in Rs. '000')

	2062/63	2063/64	2064/65	2065/66	2066/67
Cash flows from Operating Activities					
1. Profit/(loss) before taxation	45008	45009	43876	30963	(27279)
Adjustment					
Add: Depreciation		57330			
Depreciation	55823	6041	49176	64166	60228
Amortization	3045	1966	6602	503	532
Interest expenses	284	3	265	1329	8875
Provision for Bonus & Staff Quarter	7019	7019	6928	4889	-
Other non-cash expenditures	-	3485	-	2544	3989
Loss/(Profit) on sale of fixed Assets	1	-	-	-	(385)
2. Cash flows from Operation before Working Capital Changes	111179	120853	106847	104394	45960
Decrease (Increase) in current assets	73575	24505	(117358)	22427	(63198)
Increase/ (Decrease) in current liabilities	(55400)	(99311)	47201	46302	205820
Interest paid	(284)	(284)	(265)	(929)	(8814)
Payment of Gratuity	(264)	(398)	(40)	(1900)	(438)
Payment of bonus and staff quarter	(4701)	(4701)	(7615)	(6928)	(4427)
Taxes paid in respect of earlier years	(6300)	(633)	(556)	-	(1337)
Special fees paid	-	(9488)	(556)	-	-
Net cash flows from operating activities	118089	30823	28214	163366	173526
B. Cash flows from financing activities					
Sale/(purchase) of fixed assets/investments	(108103)	(7999)	(32457)	(36433)	(25755)
(Addition)/Deletion to capital work in progress	-	-	-	(176107)	(204204)
Others (capitalization of deferred expenses on bottles & crates)	16001	-	-	11411	-
Additional to deferred expenditure	-	(4660)	(7595)	-	-
Net cash flows from investing activities	(92102)	(12659)	(40052)	(201129)	(229959)
C. Cash Flows from Financing Activities					
Borrowing/(repayment) of bank loan	(25000)	-	-	72000	72000
Interest paid	(200)	-	-	(400)	-
Others	(368)		-	172	-
Dividend distribution	-	(9744)	-	-	-
Net cash flows from financing activities	(25578)	(9744)	-	71772	72000
Net increase/(decrease) in cash (A+B+C)	420	8420	(11838)	34009	(32461)
Cash and cash equivalents at the beginning of the year	4915	5335	13755	1917	35925
Cash and cash equivalents at the end of the year	5335	13755	1917	35926	3464

Source: Cash Flow Statement of BNL for the Relevant Year

APPENDIX - III

Bottler Nepal Limited Balance sheet For the year 2063 - 2067 ('000)

Assets	2062/63	2063/64	2064/65	2065/66	2066/67
<u>Current Assets</u>					
Inventory	226861	18498	224070	176936	189256
Account receivable	88039	124178	80845	63657	52832
Cash and bank balance	5335	13755	1917	35926	3464
<u>Total current Assets</u>	320235	322913	306832	276519	245552
Fixed Asset	103200	156729	120596	139253	114329
<u>Total Assets</u>	423435	479642	427428	415712	359881
<u>Current Liabilities</u>					
Creditors	58165	54296	72333	35336	46302
Other current liabilities	274683	119726	156577	246147	230098
<u>Total current liabilities</u>	332848	174022	228910	275483	276400
Debt and equity	90587	305620	198518	140289	83481
<u>Total liabilities</u>	423435	479642	427428	415772	359881
<i>Sales</i>	609654	632114	614739	621827	434190

Sources :- Balance sheet of BNL for the year 2062/63-2066/67