

CHAPTER- 1

INTRODUCTION

1.1 Nepalese Economy

Nepal is predominantly an agricultural country. Agriculture, fisheries and forestry altogether account for some 39% of the country's GDP. During the last decade the average growth in the GDP was around 5%. However, in the FY 2005/06 the GDP growth was 2.3 percent. The overall growth rate depends primarily on the growth rate of agriculture sector. The growth in other sectors of the economy is constrained by the small domestic market, poor physical infrastructure, inadequate human and financial resources, and land-lockedness of the country, the political instability and the topography of the country. In later years, the insecurity caused by political instability though currently resolved has also become a major factor to limit the overall economic development of the country. Nepal is one of the least developed countries in the world. The country has one of the lowest levels of per capita income in the world. During the first eight months of the fiscal year FY 2062/63, the country's economy depicted the following:

- The level of inflation in 2063 Falgun stood at 6.2%.
- The exports have decreased by 3.5% in the first seven months of FY 2063/064.
- The imports have increased by 0.3% in the same period.
- The Balance of Payment stood at Rs.6.3 billion at the end of Magh 2063..
- The foreign exchange reserve as on Magh end 2063, was Rs.163

billion.

- The GDP growth was 2.3% in the FY 2062/063.

(Source: Nepal Rastra Bank Annual Report 2064):

1.2 Introduction of Nepalese Pharmaceutical Enterprises

Owing to geographical diversity ranging from the coldest Himalayas to the hottest Terai, Nepal is rich in several kinds of medicinal plants. However, the concept of producing modern medicines locally in the country flourished only since 1955 A.D, when the then His Majesty's Government drafted a master plan for the utilization of medicinal plants and implemented in 1961 AD. As per the plan, Royal Drugs Research Laboratory (RDRL) was established in 1964 AD, which besides various research activities, started manufacturing modern pharmaceutical drugs from 1968 A.D. And thus the manufacturing unit of RDRL was converted into Royal Drugs Limited (RDL) in 1972 AD for commercial production and sales of modern drugs. And obviously Royal Drugs Limited becomes the pioneer of Nepalese pharmaceutical companies.

The establishment of Royal Drugs Limited was an encouragement for individuals willing to initiate new pharmaceutical industries. After its establishment, a private pharmaceutical company namely 'Nepal pharmaceutical works Pvt. Ltd' emerged at Godavari, Lalitpur, but turned out unsuccessful. Likewise, initially chemidrug industries also produced modern ayurvedic drugs but later engaged in production of allopathic drugs. However, due to lack of adequate information and technical deficiency, pharmaceutical industries couldn't improve in the decade of 1970s. Five factories were established in late seventies but were inefficient by early eighties.

A suitable environment for drug industry was created when 'Department of Drug Administration' (DDA) was established in 1979 in accordance with Drug Act, 1978. Therefore, many drug industries were established during this time. In 1993, in order to give special focus, Royal Drugs Research Laboratory (RDRL), established in 1964, which was previously under Ministry of Forest and Soil was transferred to Ministry of Health.

The then His Majesty's Government of Nepal introduced National Drugs Policy (NDP) in 1995, with objectives to maintain and safeguard the health of the people by making the country self-reliant in drug production ensuring availability of safe, effective and quality drugs at reasonable price to fulfill the need of every nook and corner of the country. In the ninth plan, HMG has emphasized the necessity of implementation, and the monitoring of NDP and a new list of essential drugs was also published. And recently, the government has also come out with long-term twenty years health plan urging serious attention in its implementation.

With reference to the figure of 1996, it is revealed that Nepal imports medicines worth approximately 2,650 million rupees during the time. The demand of the medicine has been increasing proportionately with the increase of population and also with the growing health and hygiene awareness among the public. 80 percent of this demand is met by importing medicines from India alone and only 18 percent is being covered by the Nepalese pharmaceutical industries. Comparing the above figures with that of 1972, the local production of medicines in 1972 was 15 percent only; and this signifies there has been insignificant growth of Nepalese pharmaceutical industries in time span of two and half decade. Number of causes have been pointed out in general for this short coming, which are; heavy influx of meager quality drugs from neighboring country, competition prevalent within local industries in spite of competing with foreign pharmaceutical companies, etc. The local industries are reluctant to compete with foreign companies because of various factors, mainly the technical, economical and goodwill deficiency.

Department of Drug Administration of Nepal Government records the following figures in pharmaceutical sector of the country:

Table 1- Number of Registered Pharmacy Outlets (Asadh 2064):

Fiscal Year	Whole Seller	Retailers	Total
Total up to 2063/64	3,583	20,510	24,093

Table 2- Domestic Drug Industries in Operation:

Fiscal Year	Allopathic	Traditional	Total
Total up to 2063/64	79	46	125

Table 3- Product Recalled from Market:

Domestic Industries		Foreign Industries	
No. of company	No. of product	No. of company	No. of product
13	21	3	6

Table 4- Permission for Advertisement of Medicine According to clause 19 of Drug Act, 1978 and Annex 11 of Drugs Registration Regulation 2040:

Fiscal Year	Products
Up to 2063/64	95

Table 5- Marketing Permission granted to Nepalese Pharmaceutical Products:

Fiscal Year	No. of products
Up to 2063/64	4380

(Table 1, 2, 3, 4, 5; Source Drug Bulletin of Nepal, 2007)

1.3 Introduction to Nepal Drugs Limited

History of Nepal Drugs Limited can be traced back to 2023 B.S. (1966 A.D) when Nepal Drugs Research Laboratory (NDRL) was established for the production and marketing of medicines. The aim of the program was to search for possibilities of establishment of pharmaceutical industries in Nepal and to help the laboratory for re-orientation of its research activities for betterment of the country. Thus, a separate production unit operating under this research laboratory was established,

which was formally inaugurated by Her Majesty the Queen on Ashadh 8, 2025.

It was only after a trial period of four years in the production and marketing of medicines, the production unit was converted into Nepal Drugs Limited. Hence, Nepal Drugs Limited was established on Ashwin 1, 2029 under the Company Act, 2021 as per the decision of the then His Majesty's Government on Asadh 13, 2029. To begin with, the company began its activities from a small building situated at Thapathali. Now, the company is operating from Babarmahal, where it has 45 ropanies of land, which includes 90,000 square feet of main factory building and other smaller buildings.

The company initiated its activities with an authorized capital of Rs. 15,000,000 and paid up capital of Rs.6, 342,000. Currently the company's authorized capital is Rs. 150,000,000 and paid up capital is Rs 75,499,000. Out this capital, Nepal Industrial Development Corporation holds shares worth Rs. 7, 00,000 and the then His Majesty's Government owns rest of the shares. The company has also invested shares worth Rs. 1,302,000 in Herbs production and processing company limited.

The company is being assisted by international organizations such as; UNIDO, UNICEF, ZAIKA, WHO, UNDP in terms of plants and machineries. Currently, the company is facing competition with several existing drug manufacturing companies' particularly Indian pharmaceutical companies. Dynamic marketing and promotional activities has one of the necessities in the company. Besides, Sound Financial management practice has also been one of the requirements for the sustainability of the company.

Now the name of this company is changed into **NEPAL DRUGS LIMITED**, after the country is declared as LOKTANTRA in 2063, Baishak 11.

❖ **The main aims and objectives of Nepal Drugs Limited have been put as follows:**

1. To produce and distribute safe, efficacious and quality medicine in reasonably fair prices to the general public in a way that will lead the country towards self-sufficiency in essential drugs.
2. To produce new varieties of medicines as per the market demand and deliver them in time.
3. To help the other local industries by using their products in production and packaging areas.

❖ **Types of medicines**

Nepal Drugs Limited produces and markets 30 clinical groups of medicines that consists of 70 preparations in 92 varieties in the form of tablets, powder, liquids, Ointments and injectable fluids.

❖ **Popularity of NDL Medicines**

The medicines of Nepal Drugs Limited are consistently gaining popularity which shows by the consistent increase in sales volume. Some of the medicines are so popular that they have acquired household names. Various factors have contributed to the growing popularity; the most important is, of course, the confidence that has been shown by the medical practitioners, chemists and druggists on NDL products. The underlying truth in the confidence is “Nepal Drugs Limited manufactures safe, efficacious and quality medicines under GMP conditions of international standards and markets them at reasonably fair prices.”

❖ **Future policies and targets of NDL**

NDL has the following future policies and targets for essential drugs and quality contribution of national income.

(a) Future Policies

NDL is concentrated to access pure medicine essential for public health facing the immense competitive condition of the market, the following future policy of NDL are as follows:

- a. To provide sell and distribute new kinds of medicine according to demand of market.
- b. The company is serious toward good manufacturing proactive to enhance at product quality.
- c. To operate the awareness programs about new product in the people.
- d. To make selling policy adjusting.

(b) Future Targets

- a. Generation of skill larger opportunity of employment.
- b. Development of a new separate venture of potentials and I.V fluid unit.
- c. Leading of NDL to such a state of profitability that its purchase of share may become lucrative.
- d. Starting manufacture of 80% of essential drugs by number in the country.
- e. Development of a situation to the employees in such a way that a hard working person will enjoy highest remuneration where as unproductive person will be made redundant.
- f. Expansion of production ten-fold to have positive profitability trend.
- g. Floating of the public share so that the capital investment will be at ease.

The production and sales achievement of Nepal Drugs Limited are shown in the following tables;

Table 6-Production Achievement**(Rs. in '000')**

F/Y	Tablet	Folmalham	Capsule	IVF & ENT	Powder & Suspension	Jeevan Jal
2057/58	187,795	1,222	10,781	475	127	5,456
2056/57	193,711	768	5,246	330	54	3,768
2057/58	220,857	1,102	7,062	472	59	2,040
2058/59	127,493	813	5,816	552	44	4,596
2059/60	93,145	928	5,485	521	67	3,888
2060/61	72,999	746	3,551	383	-	1,701
2061/62	76,204	560	2,364	255	32	568
2062/63	76,695	737	2,535	324	20	920
2063/64	49,018	286	1,386	322	12	708

Table -7 Sales Achievement**Rs '000'**

F/Y	Sales
2057/58	119,223
2056/57	127,389
2057/58	128,459
2058/59	93,279
2059/60	114,063
2060/61	81,833
2061/62	60,283
2062/63	65,953
2063/64	51,966

(Table 6 & 7, Source NDL Bulletin)

1.4 Statement of the Problems

Cash estimation to the protection of firm's cash requirement. It is concerned with all decisions 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 that the portion of its total current assets which is put to variable operative purpose and has the characteristics of greater divisibility, liquidity. The cash and bank balance of an enterprise is that portion of its total current assets which is put to variable operative purpose and has the characteristics of greater divisibility, liquidity and rapidity of turnover which influence the types and terms of financing. Hence, cash is itself a decision making area within the framework of the overall current assets management.

The down-falling trend of public enterprises, especially the industrial enterprises or the manufacturing enterprises has been the everlasting problem of our country. Hardly a handful of these public manufacturing enterprises have proved satisfactory, rest of all being a burden to the government. In the name of economic liberalization, many of these companies are either privatized or are in the process of privatization to get rid of the burden. The annual report of financial status of public enterprises, the economic survey, FY 2003/2004, 2004/05, 2005/06, 2006/07 and 2007/08 conducted by His Majesty's Government, Ministry of finance clearly mentions about the inefficiency of public enterprises.

- The hostile conditions of rampant destruction of its assets and operations resulting from internal conflict and open state of insurgency.
- Due to lack of proper planning interference corruption; and political interference causes high cost of production.
- The accumulated amount of account receivable which is being increased year by year shows the poor performance of NDL.

1.5 Objectives of the Study

The present study has been conducted to examine cash estimation practices of Nepal Drugs Limited of Nepal, on the basis of the case study of Nepal Drugs Limited, the oldest public pharmaceutical company of the country.

It focuses on the investment decision of the company and in particular the cash requirements in short run business operation of the firms, i.e. management of the individual current assets like; cash and bank balance, receivable and inventory in the short-run.

The specific objectives of the study are as follows:

- 1 To examine and critically analyze the cash estimation practices in Nepal Drugs Limited
- 2 To examine the liquidity position of Nepal Drugs Limited.
- 3 To examine the cash flow statement of Nepal Drugs Limited.
- 4 To analyze the allocation and expenditure of cash of Nepal Drugs Limited.
- 5 To recommend viable suggestions to cope up with cash management short comings in Nepal Drugs Limited.

1.6 Limitation of the Study

The study is subject to various limitations, which are as follows:

1. The study assumed that the impact of political factors of the country such as; change in government, any sort of political involvement in the in the firm, if prevalent, has insignificant or no effect upon the financial decisions.
2. The study is mainly dependent on secondary data, covering data of past seven fiscal years only.
3. Nepal Drugs limited has been chosen as sample from among various manufacturing public enterprises. Hence, the findings couldn't be extensively generalized to all the existing public enterprises of the country.

4. Statistical tools and financial ratio analysis have only been used to analyze quantitatively.

1.7 Organization of the Study

The study has been organized into five chapters, each devoted to some aspect of the study on “Cash Estimation Practices” of Nepal Drugs Limited. The titles of these chapters are as follows:

Chapter 1: Introduction

A background information on the subject matter of research undertaking has been presented under this section to provide a general idea of its history. So, this section includes a brief introduction to public enterprises in Nepal, role and objectives of public enterprises in Nepalese economy, then proceeding through an updated information of existing Nepalese pharmaceutical enterprises and introduction to Nepal Drugs limited. Likewise, the statement of the problem, objectives of the study comes next followed by limitations of the study.

Chapter 2: Review of Literature

This chapter included the reviews of relevant previous writing and studies to find the existing gap. Review of textbooks, dissertations/ thesis has been included.

Chapter 3: Research Methodology

In this chapter, the method employed to gather data and the tools used in its interpretation has been described under the headings; research designs the population and sample, nature and sources of data and financial and statistical tools for analysis of data.

Chapter 4: Data Presentational and Analysis

This chapter is the one of the most important and core of the thesis. Since, it consisted of systematic presentation and analysis of financial statements employing financial and statistical tools and major findings.

Chapter 5: Summary, Conclusion and Recommendations

This chapter is also important part of the study covering summarization of the study work, viable recommendations suggested and conclusions.

Bibliography

It consisted of list of published and unpublished books, articles, thesis/dissertations etc, which have been the sources of information and used as references.

Appendix

It consisted of relevant materials, which were, not much appropriate in mentioning in the main body of the report. It included profit/loss a/c, balance sheets, and questionnaires.

CHAPTER- 2

REVIEW OF LITERATURE

2.1. Meaning of Cash

Cash is one of the most important current assets for the operation of every firm. It is an idle and non-earning asset. Cash is the money, which the firm can disburse immediately without any restriction. The term cash includes coins, currency and cheques held by the firm and balance in its bank accounts. Some near cash items, such as marketable securities is also included in cash. Managing cash flows is an extremely important task for firm because the primary goal of a financial manager is to maximize firm's value and is based on cash flows. The financial manager's task is to determining how much cash a firm should have on hand at any time to ensure continuous normal business operations without interruption. If a firm holds more cash than it needs, share holder's returns will not be maximized. Therefore, for its smooth running and maximum profitability, proper and effective cash management in business is of paramount importance. So, the management of current assets and current liabilities of the business is necessary for day to day operation. It is concerned with the decision regarding the short-term funds influencing overall profitability and risk involving in the firm. Thus, management of cash has been regarded as one of the conditioning factors in the decision-making.

List of Cash Receipts and Disbursements

<u>Cash Receipts</u>	Amount	Amount
Cash Sales		
Collection from A/R		
Issue of Common Stock		
Any other likely cash inflows		
Total Cash Available (A)		
<u>Cash Disbursements</u>		
Payment for Purchases		
Payment for Labor		

Payment for Manufacturing OH.		
Indirect Material		
Power		
Maintenance		
Indirect Labor		
Heat and Light		
Supervision		
Engineering		
Taxes & Insurance		
Payments for Operating Expenses		
Sales Commission		
Carriage Outward		
Advertising		
Executive Salary		
Insurance		
Property Taxes		
Capital Outlay for Purchase of Computers		
Any Other Cash Flow		
Total Disbursement (B)		
Surplus / Deficit (A-B) C		
Minimum Cash Balance		
Total Surplus / Deficit (D)		

2.2 Different Techniques of Cash Management

(1) Cash Budget

The cash budget shows the firm's projected cash inflows and outflows over some specified period. It is the most significant device to plan for and control cash receipts and payments. It provides much more detailed information concerning a firm's future cash flows. It is the most important tool for managing cash. It is useful in determining when cash surplus or shortage will occur. Plans can then, be made to borrow to cover shortages or to invest surplus.

(2) Cash Planning

Cash planning can help anticipate future cash flows and needs of the firm and reduces the possibility of idle cash. Cash planning is a technique to plan for and control the use of cash. The forecasts may be based

on the present operation or anticipated future operation. 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. *(Pandey, 2005:46)*

(3) Long-term Cash Forecasting

Long-term cash forecasting are prepared to give an idle of the company's financial requirement of distant future. Once a company develops long term cash forecast, it can be used to evaluate the impact of say new product development on the firm financials condition. The major uses of the long-term cash forecast are company's future financial needs, especially for its working capital requirements, to evaluate proposed capital projects and it help to improve corporate planning. Long term cash forecasting not only reflects more accuracy and the impact of any recent acquisitions but also foreshadows financing problems.

(4) Short-term Cash Forecasting

There are most two common used methods of short-term cash forecasting are as follows:

a. Receipts and Disbursements Forecasting

The prime aim of receipt and disbursement forecasts is to summarize cash 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.

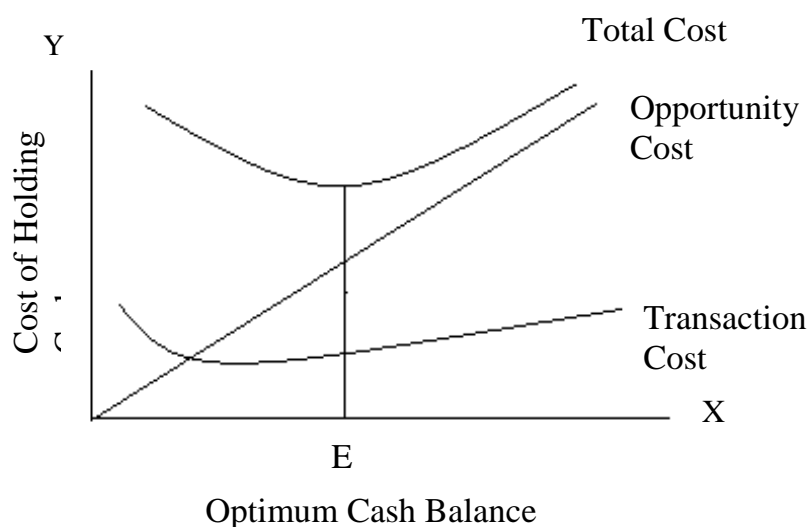
b. Adjusted Net Income Method

This method of cash forecasting involves the tracing of working capital flows. Sometime, it is also called the sources and uses approach. Two objectives of this method are; to project the company's need for cash at some future date and to show whether the company can generate this money internally or not.

2.3 Determining the Optimum Cash Balance

Financial manager responsibilities are to maintain a sound liquidity position of the firm, so that dues may be settled in time. Every 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 transaction purpose and an additional amount may be maintained as a safety stock. The financial manager should determine the appropriate amounts of cash balance, a trade-off between risk and return influences such a decision. If the firm maintains a small cash balance, its liquidity position become weak and suffers from a 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 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 and risk of too small. A balance should be matched with the opportunity costs of too large a balance. The figure shows this trade-off graphically.

Figure.No-1 Determination of optimum cash balance:



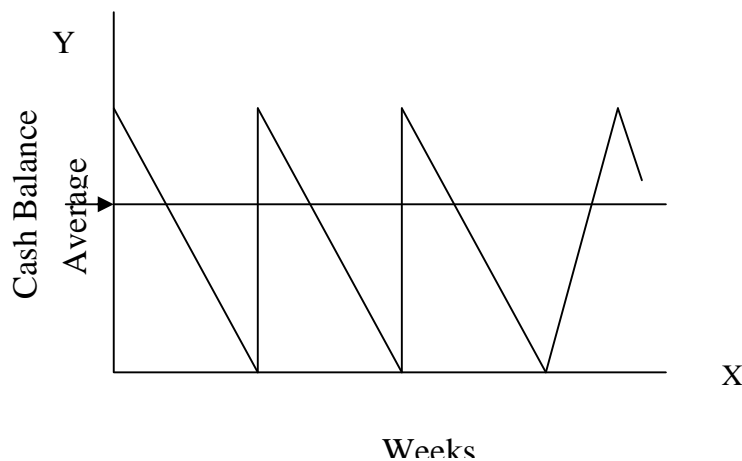
2.3.1 Optimum cash balance under certainty; Baumol's Model

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 funds not required be invested in the marketable securities. Baumol model is one of the methods that can be used for this purpose. Baumol model is based on the assumptions that;

1. The cash is used at a constant rate,
2. The periodic cash requirements is more or less and
3. There are some costs such as opportunity costs that increase and other costs such as transaction costs that decrease as cash balance increase. (*Khan and Jain, 2003:136*)

Because of the assumption (1) and (2) the graphical representation of cash position looks like as follows:

Figure.No-2 Baumol's model for cash balance:

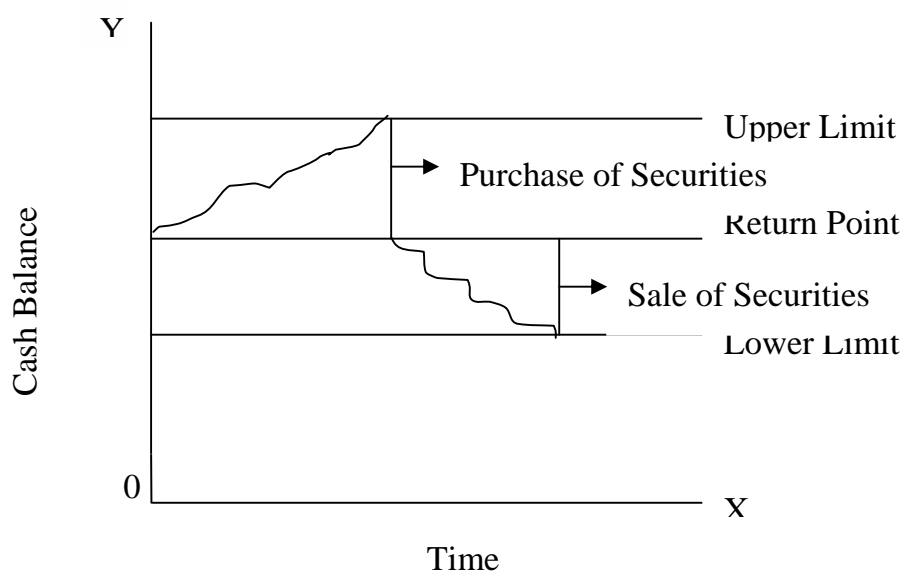


Given its assumptions, the model prescribes an optimal size of cash balance and the optimal size of account or borrowing. What matter for a firm is the total of opportunity cost and the transaction cost? Therefore, the objective of this model is to minimize the total cost of holding cash balance. The figure below shows the relationship between the average size of cash balance and various costs associated with the cash maintenance.

2.3.2 Optimum cash balance under uncertainty; The Miller-Orr Model

The limitation of the Baumol model is that it does not allow the cash flows to fluctuate. Firms in practice do not use their cash balance uniformly nor are they able to predict daily cash inflows and outflows. The Miller-Orr model cash flow variation. It assumes that net cash flows are normally distributed with a zero value of mean and a standard deviation. As shown in figure below, the Miller-Orr model provides for two control limits- the upper control limit as well as lower control limit and return point. If the firm's cash flows fluctuate randomly and hit the upper limit, then it buys sufficient marketable securities to come back to a normal level of cash balance (the return point). Similarly, when the firm's cash flows wander and hit the lower limit, it sells sufficient marketable securities to bring the cash balance back to the normal level (the return point).

Figure-3 The Miller-Orr Model



2.4 Review of Books:

In this section an attempt was made to review some book on financial management, which deals with the management of cash.

1. The well known professor Weston and Brigham have given some theoretical insight into the cash management after their various studies on it. The bond conceptual findings of their studies provide sound knowledge and guidelines for the future studies in the field of cash management. They explained in the beginning, the motives for holding cash, specific advantage of adequate cash, synchronization of cash flows, expending collection and cheque clearing, using float, cost of cash management determining the minimum cash balance, compensating balances overdraft system cash management, management of account receivable credit policy, evaluating changes in credit policy. Substitutes for cash are criteria for setting securities investment alternatives. (*Fred and Brigham , 2006:361*)
2. The book entitled ‘Financial Management’ written by M.Y. Khan and P.K. Jain, explained that cash management is one of key areas of ‘working capital management’. Apart from the fact that it is the most liquid current assets, cash is the common denominated to which all current assets, can be reduced because the other major liquid assets i.e., receivables and inventory get eventually converted in cash. This underlines the significance of cash management. (*Khan and Jain, 2004:366*)
3. Regarding cash management, a well –known Indian professor I. M. Pandey has described some conceptual ingredients, which are based on his various research studies. Some lesson can be learnt from it which is helpful for this study indeed. He has described various aspects of cash management which are as follows; fact of cash management, motives for holding cash, cash forecasting and budgeting, managing the cash flows, counting disbursement, determinant of the optimum cash balance. (*Pandey, 2003:265*)
4. Some theoretical concept on the component of cash management can be obtained from Van Horne books. He has categorized the various component of cash management. These are the functions of cash management; managing collection, transferring funds, concentration banking, lock-box system and other procedures, control of cash disbursements, payroll and dividend disbursements, zero balance account, electronic fund transfer, balancing cash and

marketable securities, model for determining optimal cash.(Horne,2005:356)

5. The book entitled “Financial Management”, has described some conceptual ingredients about cash management which is based on his various research studies. The book 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 diverges if they are not in a position to utilize them. But efficient corporation due to undertaking of more operations need besides having profit.

2.5 Review of the Previous Dissertations

In this section the review of the thesis of the master’s level relating to cash were been considered. There were only few thesis/dissertations written on cash when browsed through computer records of theses reports presented earlier in Tribhuvan University Central Library as well as in Shanker Dev Campus. Nevertheless, there were plenty of dissertations, which were closely related to cash management. For instance, working capital management, inventory management and profit planning are the topics, which are some way related to cash management. The topics are given below,

-) A Study of Cash Management in Nepalese Enterprises by Subarna Lal Bajracharya (1990)
-) A Study of Cash Management of Salt Trading Corporation Ltd.by Bijaya Pradhan (1997)
-) A Study on Working Capital Management of Pharmaceutical Industry of Nepal with special reference to Royal Drugs Limited by Naresh Kunwar (2000)
-) Cash Management in Nepalese Public Enterprises: A Case Study of Royal Drugs Limited by Sabin Prakash Sainju (2003)
-) Profit Planning in Royal Drugs Limited by Pashupati Bhandari (2004)
-) Inventory Management of Manufacturing Public Enterprises in Nepal by Manoj Kumar Banarjee (2005)

-) Cash Management of Nepal Telecom by Pradeep Koirala (2006)
-) Cash Management in the context of Gorkha Ayurved Company Pvt.Ltd. by Jyoti Bajracharya (2007)
-) A Study on Inventory Management and Control of Royal Drugs Limited by Govinda Dhakal (2008)
-) Cash Management of Nepal Electricity Authority by Pooja Dhungana (2009)

Bajracharya, Subarna Lal (1990), unpublished thesis entitled” *A Study of Cash Management in Nepalese Public Enterprise*”, has studied the cash management practices in Nepalese public enterprises. He has taken 18 enterprises as a sample. According to his study, he concluded that,

-) Cash management in public enterprises is primarily based on the traditional practices. Lacking in a specific approach, more serious aspects of cash management has been the any formalized system of cash planning and cash budgeting in many of enterprises, although the executive of some enterprises do have the practices of forecasting cash requirements on a formal basis.
-) Modern practices with respect to debt collection, monitoring the payment, behavior of customers and relevant banking arrangement in connection with collection of receivables have been virtually ignored in many enterprises.
-) Majority of the enterprises didn’t face any serious liquidity problem.However, this was not because of the effectiveness of cash planning and budgeting. The problem of liquidity actually didn’t arise due to the coincidence of delay in payment to creditors.
-) By and large most enterprises have periodic accumulation of surplus cash and corresponding cash shortage from time to time. However, one of the enterprises considered the implication of holding idle cash balance and few took on to account the potential benefit of investing surplus in marketable securities. These which failed to consider the cost of administering such investments.

-) There had been wide variations over the time in the state of financial health of enterprises in terms of the composition of current assets to current liabilities as revealed by the relevant financial ratios.
-) Neither interest rate nor the rate of inflation had any effect on the cash balance. Further there was very little evidence of effect on the cash balance holding in most case.

Further he recommended for developing appropriate strategies for cash management. He stressed on cash planning and budgeting to cash project cash surplus and cash deficit. Firm can accelerate the inflows as far as possible to decelerate outflow. He also stressed to maintain optimal level of cash and at last, it can be better to invest idle fund in marketable securities.

Another thesis report reviewed was presented by Pradhan, Bijaya (1997), entitled “*A Case Study of Cash Management of Salt Trading Corporation Ltd*”, as partial fulfillment of the requirements for the degree of master’s of business administration. The thesis was based on the secondary data of the company for the past six years.

The major finding of his study has been presented as under;

- a. Salt trading corporation Ltd could not make the best use of available cash balance prudently.
- b. The cash collection efficiency in this corporation is very low.
- c. The collection of trade credit in the corporation is low during the three years of the study period.
- d. Management has taken liberal credit policy to sales of goods. Hence the cash and bank balance of the study period is minimum of account receivables.
- e. No optimum cash balance is maintained.

Bijaya Pradhan has provided some recommendations to improve cash management.

- i. Efficient management of cash.
- ii. Design effective account receivable management.
- iii. Adopt effective credit policy.
- iv. Maintain optimum cash balance.
- v. Prepare cash budget.
- vi. Invest in marketable securities.

Another thesis report reviewed was presented by Kunwar, Naresh (2000), entitled '*A Study on Working Capital Management of Pharmaceutical Industry of Nepal with Special reference to Royal Drug Limited*' presented as partial fulfillment for the requirements of the master's of business administration.

Major findings of his research work were;

- (a) Company is following conservative working capital policy.
- (b) It is found that inventory holds the largest portion of current assets.
- (c) It shows that investment in current asset is high with respect to total assets.
- (d) The company has not been able to convert current asset quickly in cash in order to meet current liabilities.
- (e) Overall return position of company is negative, not in favourable condition. It is because of inefficient utilization of current assets, total assets and shareholder wealth.

Mr. Kunwar has provided some recommendations to improve working capital management:

- There must be compulsory formulation of appropriate working capital policy not only conservative. Besides, there should be

policy to prevent the holding of excessive and inadequate current assets in the company.

- It should adopt modern inventory system.
- Adaptation of standard and marginal cost techniques will also be a good measure in controlling and classifying the cost as well as for identifying the responsibility centers for the losses.
- There should be proper co-operation interaction between different sales agents, production, marketing and sales department during the planning of sales.
- Positive attitude towards risk through providing training, participation in management etc for the managerial level employees.

Another sort of dissertation was presented by Sainju, Sabin Prakash (2003), entitled “*Cash Management in Nepalese Public Enterprises: A Case Study of Royal Drugs Limited,*” presented as partial fulfillment for the requirements of the master degree.

Major findings of his research work were;

Company doesn't have any definite policy regarding how much of cash balance to hold each fiscal year.

Company has not been forecasting cash balance taking into consideration the sales volume.

Company fails to maintain an adequate proportion of cash in its current assets.

Cross analyses revealed that company fails to collect receivables from its sundry debtors timely.

Company has not been precisely meeting its current liabilities payment.

Mr. Sainju has provided some recommendations to improve cash management system of Royal Drugs Limited;

- a. Maintain optimum cash balance every year.

- b. Prepare trial balance.
- c. Prepare cash budget on the basis of cash flow analysis.
- d. Prepare cash flow statements.
- e. Determine minimum level of cash balance to hold every year, maintain such minimum level of cash balance as a requirement of precautionary, speculative and compensation motive, besides for daily transactions.
- f. Use extensively financial and statistical tools as per required.

Another thesis by Bhandari, Pashupati (2004), entitled “*Profit Planning in Royal Drugs Limited*” has made conclusion analyzing the practices of profit planning in RDL. He has concluded that

-) The management of RDL is incapable of controlling its overflowing expenses as a result the expenses are increasing year to year.
-) RDL has been suffering from operating loss. The main cause of loss is low contribution margin ratio, burden of high fixed costs, under capacity utilization.
-) RDL has improper cash position. The cash flow statement shows the negative cash flow operation due to increase in operating expenses and improper cash management.
-) The balance sheet of RDL shows that the financial structure of RDL is not satisfactory. The total assets of RDL are financed by the equity capital. No long-term debts are taken. So RDL has no financial leverage and insolvency risk. Only some current assets are financed by current liabilities.
-) Liquidity position of RDL is poor. One major cause of poor operation and under utilization of capacity is its inadequate liquidity.

To improve such problem i.e. major conclusion, he had recommended the RDL,

-) Sales budget should be prepared.
-) Cash flow should be improved lowering its inventory level to some extent.
-) Unnecessary government intervention should be controlled in planning system, price fixation and personnel system.
-) RDL should improve its liquidity position raising long-term capital.
-) A systematic approach should be made towards comprehensive profit planning. This can be considerably contributed to increase profitability of the RDL.

In the like manner, a somehow related thesis to cash management was presented by Banarjee, Manoj Kumar (2005), entitled “*Inventory Management of Manufacturing Public Enterprises in Nepal*”. The analyses were carried on the basis of inventory management formulae such as Economic Order Quantity and Re-order Level. Mr. Banarjee had computed inventory values theoretically and compared it with actual quantity of inventory in the firm in relation with other factors such as time, working days, and so on. The deviations from the theory suggested the condition of actual inventory management practice of the firm. In spite of the approach to analysis being different from the general tools of analysis, only a portion of cash management, i.e. only the inventory management aspect has been analyzed; the analysis being based only on three types of raw materials purchased.

Further he had recommended that,

1. The objective of the inventory management system is to control the inventory to minimize the variance between targeted and actual

sales, which will help to increase profitability. In spite of calculating sales target from central offices, individual PEs branches offices should be allowed to set their own because of people working at the area will have better knowledge of the actual situation.

2. Manufacturing PEs should make an effort to match the targeted demand i.e. targeted sales and actual supply to overcome the overstocking and under stocking problem of inventory.
3. Accounting provides valuable information to the decision makers, which can serve the controlling function if records are classified and kept properly.
4. Price of product play vital role in actual sales. Selling price should be minimum. The administrative expenses are too high and direct selling expenses is too high. Manufacturing PEs should minimize these costs.
5. Fully authority should be given to the concerned department. Proper coordination should maintain within the organization.

Another thesis was presented by Koirala, Pradeep (2006), entitled, *“Cash Management of Nepal Telecom”* He had concluded that the company was able to collect more cash from different sources than it targeted in the budget. It shows good position of actual cash collection of the company. On the other hand, company did not spend cash as targeted. Due to these facts, there was enough surplus cash in hand every year. But company could not manage the surplus in the productive sector. The study shows that the company has high liquidity which adversely affects profitability of the company. The company has also taken external loan from foreign institution which was not required to borrow. It was able to meet its expenses of budget

by its own source. There are strict provisions regarding cash control practices like procedure of running bank account, central collection policy, authority and responsibility for expenses, etc. in NTC. Strict and lengthy procedure of business activities hamper in decision making which may cause to suffer for not getting business opportunity.

On the basis of the study considering target objective, following recommendations are given,

-) Appropriate investment policy for surplus cash.
-) Maintain liquidity in balance.
-) Use internal source in full capacity.
-) Revised the strict provisions regarding cash.

Bajracharya, Jyoti (2007). thesis entitled “Cash Management in the context of Gorkha Aayurved Company Pvt. Ltd.”, has studied the cash management practices in Gorkha Aayurved Company. She has concluded that cash management practices in GAC aren't so effective due to lack of mobilizing excess cash on profitable sector as well as instability to give trade discount. There is also lack of awareness of the employees for practicing cash management inside GAC. In addition to cash management, the overall performance of a firm counts for managerial aspects such as human resource management, organizational and marketing management, etc. Thus, for GAC, it is necessary to highlight the importance of developing appropriate strategy for cash management.

To improve such problems i.e. major conclusions, she has recommended that,

- ❖ Efficient holding practice of cash.
- ❖ Preparation of monthly trial balance.

- ❖ To design the effective account receivable management.
- ❖ Adopt effective credit policy.
- ❖ Maintain optimum cash balance.
- ❖ Invest the surplus cash in profitable opportunities.

Dhakal, Govinda (2008), thesis entitled, “A Study on Inventory Management and Control of Royal Drugs Limited”. He has concluded that the value for maintaining proper stock of inputs as well as discussed previously are necessary to know the answer about when and how much to buy for RDL. For managing inventory are available they could not be used fully for finding out the necessary operation of the company because of the lack of adequate data. No techniques for inventory management are possible to apply to calculate on the major decision when to buy because of the lack of planning and unsystematic methods of recording cost. If no concrete step is taken with regards to recording and maintaining of proper data on stock-out cost, carrying cost, price of the raw material etc. Separately, future researcher would not be able to predict the reorder period and how much to maintain the safety stock properly.

Mr. Dhakal has provided some recommendations to improve inventory management;

- ❖ The company should define its goals and objectives clearly with regards to its inputs and outputs separately i.e. the quantities, time periods should be specified.
- ❖ Royal Drugs Limited should adopt the ABC analysis. So the company should categorize its inventory.
- ❖ Ledger card can also be used to manage inventory in a simple way. In this card, the name of item, item number, unit price,

usage rate, supplier's name, the percentage of carrying cost, and the rate of carrying cost are maintained.

- ❖ The frequently changing the general manager has also affected the management. It creates unstable environment. So his post of general manager should be professional and it should be far from political interfering.

One of the latest thesis was presented by Dhungana, Pooja (2009), entitled, "A Case Study of Cash Management of Nepal Electricity Authority". She has concluded that NEA's Cash management is very poor. Liquidity position is dissatisfactory, negative profitability of the company adds much to the worsening financial position of the company. The accumulated amount of account receivable which is increasing year by year denotes the inefficiency of the authority to collect its revenue in time. There is the absence of effective utilization of capital employed and liquidity position is not satisfactory. Different statistical tools show the positive relationship with two variables like cash and sales, cash and account receivable, current assets and cash current liabilities and cash. The authority is not able to maintain a proper co-ordination among various directorates in regards of the goals, objectives and strategies of the organization. The authority has been facing problems in cash management.

On the basis of the study considering target objective, following recommendations are given;

-) Leakage of electricity should be controlled for this, meter reading and meter joining system should be joined.
-) NEA should developed efficient system of revenue collection.

-) The company should have suitable credit policy to handle the cash management effectively. It should adopt liberal credit policy to increase the sales.
-) NEA must follow the immediate major to control staff cost and operation, maintenance and administrative cost.
-) NEA should stress on efficient utilization of fixed assets.
-) There should be timely evaluation of strengths and weaknesses.

2.6 Research Gap

The review of the above relevant literature has contributed to enhance the fundamental understanding and knowledge, which is required to make study meaningful and purposive. Some articles have been published relating to cash management of Nepalese enterprises. This study was focused on the topic in which the previous research was not yet made. So this research work is very much centered to identify the liquidity position of this company, to make analysis of cash conversion cycle of the company, to study relationship of cash with other influencing variables of cash and ultimately to recommend practical suggestions for the betterment of this company. So this study will be fruitful to those interested person, parties, scholars, professors, students, businessmen and government for understanding cash management practices of the company. Hope this study will help others in future in the related field.

CHAPTER- 3

RESEARCH METHODOLOGY

3.1 Research Design

Research design is the plan, structure and strategy of the investigations conceived so as to obtain answers to research questions and to control variances. It is the arrangement of conditions for collection and analysis of data. To achieve the objective of this study, descriptive cum analytical research design has been used. Some recent financial tools along with statistical tools have been applied to examine facts and techniques have been adopted to evaluate the cash estimations of Nepal Drugs Limited. This study is the case study of Nepal Drugs Limited, one of the oldest public manufacturing pharmaceutical companies of Nepal. Past financial data of last seven fiscal years of the company were used in this study. The balance-sheets, profit and loss account statements, statements of proposed and approved budget were taken as basis for cash management of the company.

3.2 The population and sample

Nepal Drugs Limited is the oldest public manufacturing pharmaceutical company. This was a case study of cash management practices of Nepal Drugs Limited. Therefore, Nepal Drugs Limited is a population of this study.

3.3 Nature and sources of Data

Financial statement such as: balance-sheet, profit and loss accounts, statements of proposed and appeared budget were collected for analysis. The company doesn't have computerized records of financial statements; old data of last five years were collected directly from authorized staff of central office of Nepal drugs Limited, Babarmahal Kathamandu. Some of these data were published while other was unpublished.

3.4 Financial and Statistical Tools

3.4.1. Financial Tools

The financial analytical tools used for the quantitative analysis of secondary data were as follows:

1. Financial Ratio Analysis

Financial ratio analysis was used to determine the relative strengths and weakness of Nepal Drugs Limited. It also provides a framework for financial planning and control. Financial Managers need the information to evaluate the firm's past performance and to design future plans. Financial analysis concentrates on financial statement analysis, which highlights the key aspects of firm's operation. Financial statement analysis involves a study of the relationship between income statement and balance-sheet accounts. Although financial analysis has some limitations, when used with care and judgment, it can provide some very useful insights into the operation of a company.

a. Cash turnover

The cash turnover ratio explains how quickly the cash is received from the sales. In other words, it measures the speed with which cash move through an enterprise's operation.

Cash turnover ratio is obtained by the following formula:

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

b. Current Ratio

Current ratio examines the liquidity position of the company. It examines the position of the company as to its holding of current assets against its current liabilities. Higher ratio indicates satisfactory position and vice-versa. However, too high ratio is indication of poor cash management indicating poor credit management.

The standard current ratio is 2:1; however for a public enterprise, the ratio tends to be little lower than 2:1, as these enterprises generally require very little current assets. But nevertheless any company should maintain this ratio above 1:1, since ratio lower than this definitely indicates poor liquidity position

This ratio is obtained by following formula:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

c. Quick Ratio

This ratio is also known as ‘acid-test ratio’. This ratio also examines the liquidity position of the company. The purpose of this ratio is to test the ability of the firm for immediate payment of current liabilities. This ratio calculated by deducting inventories from current assets and dividing the remainder by current liabilities. Inventories and prepaid expenses are excluded because it may be difficult to liquidate them at their full back value. More or less than standard ratio is not favourable for a company. Generally acid-test ratio of 1:1 is considered satisfactory as a firm can easily meet all current liabilities.

This ratio is obtained by following formula:

$$\text{Quick Ratio} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}}$$

d.Receivable Turnover Ratio

Receivables turnover ratio gives an idea as to how quickly receivables are converted into sales.

This ratio is obtained by following formula:

$$\text{Receivable Turnover in time} = \frac{\text{Total Sales}}{\text{Receivable}}$$

With computation of this ratio, average collection period of receivables is also calculated. Shorter average collection period refers to good credit management and vice-versa. But too short collection period suggests that the company has a very rigid credit policy and thus sales curtail would be the consequence as the sales transaction is only targeted to parties making payments promptly.

$$\text{Average collection period (ACP)} = \frac{\text{Days in a year}}{\text{Receivable turnover in time.}}$$

e.Inventory Turnover Ratio

Inventory turnover ratio gives idea on how quickly inventory is converted into sales. It is often necessary to use the average inventory figure rather than the year end figure especially if a firm's business is highly seasonal or if there has been a strong upward or downward sales trend during the year. It measures the efficiency of inventory utilization. Increasing ratio is favorable which shows that firm is very efficient on inventory management. This ratio is obtained by following formula;

$$\text{Inventory Turnover Ratio} = \frac{\text{Sales}}{\text{Inventory}}$$

f. Cash and Bank Balance to Account Receivable

This ratio measures the cash and bank balance in relation with account receivables of the firm. Higher ratio refers to sound liquidity position and

vice-verse. However, too high ratio is indicative of the fact that the business dealings are restricted to only those parties making quick payments, thereby limiting its scope of sales volume.

This ratio is obtained by following formula;

$$\text{Cash and Bank Balance to Account Receivable} = \frac{\text{Cash and bank}}{\text{Account Receivable.}}$$

g. Cash and Bank Balance to current Assets

This ratio is also supportive to analyze liquidity position of the firm. It measures the position of the cash and bank balance, the most liquid current asset in the total current assets. Higher ratio implies sound liquidity position and vice-versa.

This ratio is obtained by the following formula:

$$\text{Cash and Bank Balance to Current Assets} = \frac{\text{Cash and Bank Balance}}{\text{Current Assets}}$$

h. Cash and Bank Balance to Current Liabilities

This ratio calculates the cash balance available with the firm in meeting payments of current liabilities. Moderately higher ratio indicates good liquidity, too high and too liquid ratios are unfavorable for the firm. Since, too high indicates excess cash balance held idle and too low ratio means the firm unable to meet current liabilities.

This ratio is obtained by following formula;

$$\text{Cash and Bank Balance to Current Liabilities} = \frac{\text{Cash and bank}}{\text{Current Liabilities}}$$

i. Net profit Margin Ratio

This ratio is computed to analyze profitability position of a firm. Higher ratio indicates high profitability and vice-versa.

This ratio is obtained by following formula;

$$\text{Net Profit Margin Ratio} = \frac{\text{Net Profit after tax}}{\text{Sales}}$$

j. Return on Working Capital Ratio

This ratio is also examining profitability of a firm. The ratio is aimed at analyzing the proportion of current assets employed to earn the profit amount. Higher ratio is favorable and vice-versa.

This ratio is obtained by following formula;

$$\text{Return on Working Ratio} = \frac{\text{Net Profit after tax}}{\text{Current Assets}}$$

k. Net Profit after Tax to Quick Assets Ratio

This ratio also examines the profitability of a firm; analyses proportion of quick assets (i.e. Current Assets – Inventory) in earning the profit amount.

This ratio is obtained by following formula;

$$\text{Net Profit after Tax to Quick Assets} = \frac{\text{Net profit After Tax}}{\text{Quick Assets}}$$

2. Statistical Tools

The statistical tools used for the quantitative analysis of secondary data were as follows:

a. Standard Deviation (S.D)

Standard deviation measures scatter, spread and provides idea of homogeneity or heterogeneity of the distribution. Out of various methods of studying dispersions such as; range, quartile deviation, mean deviation; standard deviation and variance are the most popular method.

$$\text{S. D.} = \sqrt{\frac{1}{N} \sum (X - \bar{X})^2}$$

Where;

N = Number of observations/time periods

\bar{X} = Expected return of the historical data

In conjunction with standard deviation, coefficient of variation (c.v.) was used. It is defined as the standard deviation divided by the mean of expected return. It is used to standardize the risk per unit of return. A project with a low c. v. has less risk per rupee than a project with a high c. v.

$$C.V. = \frac{\text{Standard deviation}}{\text{Expected return}} \times 100\%$$

b. The Least Square Method

A widely and most commonly used method to describe the trend is the method of least square. Under this method, a trend line is fitted to the data satisfying the following two conditions.

Let the trend line between the dependent variable y and the independent variable x be represented by :

$$y = a + bx \dots\dots\dots(i)$$

Then for any given value of independent variable x, the estimate value of y denoted by y_c given by above equation is;

$$y_c = a + bx$$

Where,

a = y intercept or value of y when x = 0.

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

To determine the straight line trend, we have to determine the values of a and b.

To find the values of a and b, we solve the following two equations:

$$Y = Xa + b \quad \dots\dots\dots(i)$$

and $\sum Y = \sum Xa + \sum b \quad \dots\dots\dots(ii)$

The equation (ii) is obtained by taking sum on both sides of equation (i), the equation (iii) is obtained by multiplying equation (i) by X and taking sum on both sides.

The values of a and b obtained by solving (ii) and (iii), are substituted in equation (i) gives the equation of the trend line.

To make calculation easier, the deviation of the independent variable are taken from the middle of the time period so that $\sum X = 0$

Then the above two equations change to

$$Y = Xa + b$$

$$a = \frac{\sum y}{n}$$

and

$$\sum XY = \sum Xb + \sum X^2$$

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

c. Karl Pearson's Coefficient of Correlation (r)

Correlation analysis refers to the statistical technique, which measures the degree of relationship or association between the variables. To put it differently, it helps in analysing the covariation of two or more variables.

It is to be noted that a high degree of correlation between two variables doesn't always necessarily imply that changes in one variation cause changes in the other.

Out of several methods of calculating correlation, Karl Pearson's coefficient of correlation is one of the best and popular method. Karl

Pearson's coefficient of correlation(r) measures the degree of association between the two variables suppose X and y; given by :

$$r = \frac{\sum \tilde{X}\tilde{Y}}{\sqrt{\sum \tilde{X}^2 \cdot \sum \tilde{Y}^2}}$$

Where;

r = Karl Pearson's coefficient of Correlation between X and Y.

$$\tilde{X} = X - \bar{X}$$

$$\tilde{Y} = Y - \bar{Y}$$

$$\bar{X} = \frac{\sum X}{N}, \quad \bar{Y} = \frac{\sum Y}{N}$$

N = Number of Years.

Interpretation of correlation coefficient (r)

- The value of 'r' lies between +1.00 to -1.00
- When r =+1, there is positively perfect correlation between the two variables.
- When r = -1, there is a negatively perfect correlation between the two variables.
- When r =0, the variables are uncorrelated i.e, increase or decrease in one variable results no impact on another variable and vice-versa.

Together with Karl Pearson's coefficient of correlation probable error (P.E.) of the correlation coefficient is also computed. P. E is the measure of testing the reliability of the calculated value of 'r'. It is given by: P. E. =

$$0.6745 \frac{\sqrt{1-r^2}}{\sqrt{n}}$$

Where;

P. E. = Probable error of correlation coefficient

N= Number of pair of observations

r= correlation coefficient.

It is used in interpretation whether calculated value of 'r' is significant or not.

1. It $r < P.E.$, it is insignificant. So, perhaps there is no evidence of correlation.
2. It $r > 6P.E.$, it is significant .
3. But when $P.E. < r < 6(P.E.)$, the value of 'r' is inconclusive as to statistically significant/ insignificant correlation.

The upper and lower limits within which the correlation coefficient is expected to lie are given by:

$r + P.E$ (Upper Limit) and
 $r - P.E$ (Lower Limit), respectively

But when 'r' is of negative value , i.e. $-1.00 < r < 0$, in order to compare 'r' with P.E which is always in positive value, 'r modulus' or $|r|$ is calculated. $|r|$ is nothing but it is the positive value of 'r' itself.

For instance, if 'r' is calculated as $r = -0.5$, then $|r| = 0.5$.

This positive value of 'r' is compared with P. E. and 6 (P.E.) to derive to a conclusion of practically significant/insignificant correlation.

d. Regression Analysis

Regression is the statistical tool which is used to determine the statistical relationship between two (or more) variables and to make estimation of one variable on the basis of the other variable(s). The closer the relationship between the two variables, the more accurate the estimated value is. The unknown variable to be estimated is called dependent variable and the known variable is called independent variable.

Noteworthy here is that correlation analysis indicates to what degree the variables are related and regression analysis indicates how the variables are related.

Regression line of X variable on Y variable is given by;

$$(X Z \bar{X}) X r \frac{\dagger X}{\dagger Y} (Y Z \bar{Y})$$

Where, \bar{X} = Mean of X variable
 \bar{Y} = Mean of Y variable
 $\dagger X$ = Standard deviation of X variable
 $\dagger Y$ = Standard deviation of Y variable
 r = Karl Pearson's coefficient of Correlation.

Likewise, the regression line of Y variable on X variable is given by;

$$(Y Z \bar{Y}) X r \frac{\dagger Y}{\dagger X} (X Z \bar{X})$$

CHAPTER-4

DATA PRESENTATION AND ANALYSIS

4.1. Analysis of Cash and Bank Balance

Holding of optimum cash and bank balance is the rational cash management practice of a business firm. Management of cash plays a significant role in current assets of NDL. Total cash balance refers to the cash in hand, cash at bank, and cash in transit, near cash assets such as; marketable securities and time deposit in bank.

Table-8 below shows the amount of cash and bank balance of NDL during the period under study. The cash and bank balance of each fiscal year end was compared to preceding years to analyze fluctuations.

Table-8: Analysis of Cash and Bank Balance

(Rs in million)

Fiscal year	Cash and Bank (Rs)	Increase(decrease)%
2057/58	3.79	-
2058/59	4.50	18.73%
2059/60	2.94	(34.67)%
2060/61	3.76	27.89%
2061/62	44.69	1088.56%
2062/63	4.67	(89.55)%
2063/64	3.97	(14.99)%

Note: Figures within brackets () indicates negative amount.

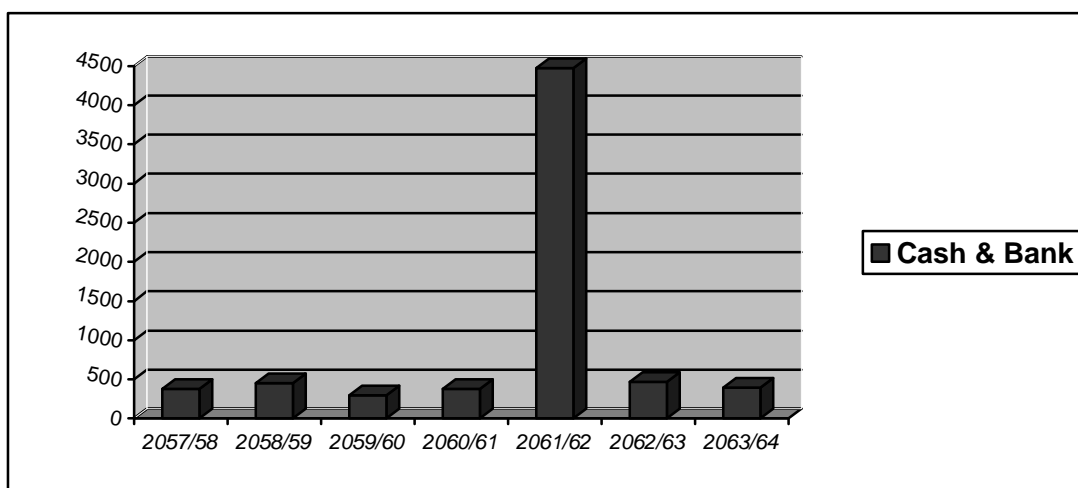
In the fiscal year 2057/58, the cash balance of the company was Rs 3.79 million, which is increased by 18.73% to Rs 4.50 million, in the following year. However, it was decreased by (34.67) % in the fiscal year 2059/60 like wise; it declined in the fiscal year 2062/63&2063/64. In the fiscal year 2061/62 the cash balance of the company was Rs. 44.69 million, which increased by 1088.56%.

However, sharpest deviation in increments of cash balance occurred in the fiscal year 2058/59 when the company held cash balance of Rs. 4.50

million compared to Rs 3.79 million in the previous year. It indicated a increment by 18.73 %. Afterwards, the figure declined in the fiscal year 2059/60 by (34.67) %, 2062/63 by (89.55) % & 2063/64 by (14.99)%. The figure suggested that the cash balance held was very erratic in nature ranging from the lowest Rs 3.79 million in the fiscal year 2057/58 to the highest of Rs 44.69 million in the fiscal year 2061/62. The figures thus show that the company has not been following definite policies regarding the amount of cash to be held in each fiscal year end.

It can be presented with the help of graph to show the variation in cash balance held at the end of each fiscal year.

Figure 4: Cash and Bank Balance (F/Y 2057/58 to 2063/64)



4.2. Analysis of Cash Turnover Ratio

The cash balance of the company should be optimum to meet its current obligations in course of daily business transactions. The cash turnover ratio represents how quickly the cash is received from its sale. Higher turnover is the signal of good liquidity and vice-versa. However, too high ratio indicates excess cash balance being held idle.

Table- 9 Analysis of cash Turnover Ratio

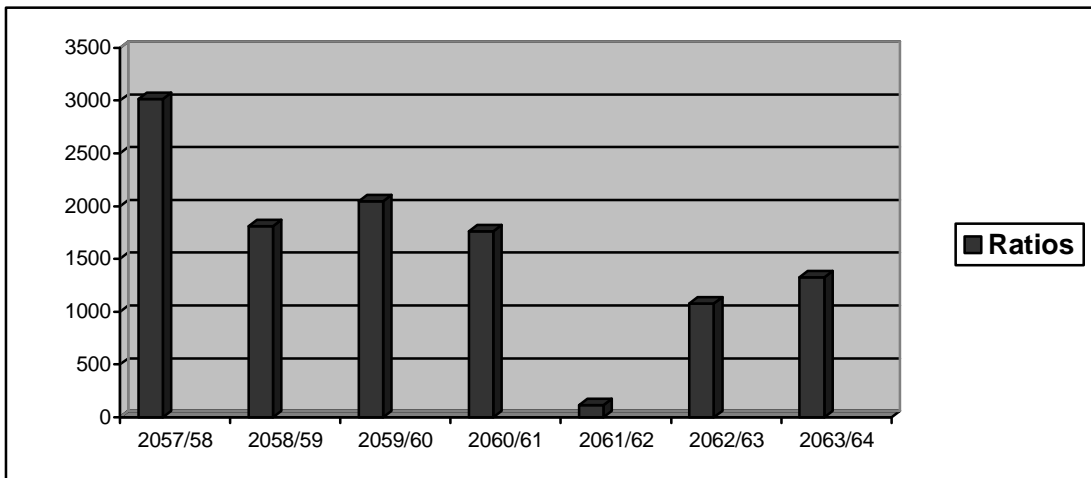
(Rs in Million)

Fiscal year	Sales	Cash and Bank	(Times)Ratio	Cash conversion days
2057/58	114.31	3.79	30.16	12
2058/59	81.56	4.50	18.12	20
2059/60	60.11	2.94	20.44	18
2060/61	66.21	3.76	17.61	20
2061/62	51.81	44.69	1.16	310
2062/63	50.26	4.67	10.76	34
2063/64	52.70	3.97	13.27	27
Total	476.96	68.32	-	-
Average	68.14	9.76	15.93	63

The above table shows erratic fluctuations in cash turnover analysis. The ratio is fluctuating too high and too low, indicative of no definite policy of holding cash balance in relation to sales volume. The above table shows the highest ratio of 30.16 times in FY 2057/58. Like wise, the lowest ratio of 1.16 has been observed in FY 2061/62. Overall, average ratio was 15.93 times. Likewise the average cash turnover cycle was found to be 63 days. However, due to unavailability of information regarding credit policy of the company, the credit days allowed to its debtors was not known. So, no precise analysis could be carried out for cash turnover cycle.

It can be presented with the help of graph to show the cash turnover ratio in relation with sales and cash balance.

Figure 5: Cash Turnover Ratio (FY 2057/58 to 2063/64)



4.3. Analysis of Current Ratio

One of the reliable methods to examine liquidity position of an enterprise is by means of current ratio.

The conventionally accepted current ratio. 2:1 is the standard ratio, a company should maintain. However, depending upon the nature of the company, the development of capital market and availability of long-term funds to finance current assets; the satisfactory ratio varies. As stated by Khan and Jain, taking into consideration the nature of a company, satisfactory current ratio for a public enterprise is generally very low, as normally these companies have very little need for current assets. So, satisfactory ratio for NDL, a public enterprise is therefore between 2:1 and higher than 1.5:1. But in general, ratio less than 1:1 is certainly undesirable for any enterprise.

Table – 10 Analysis of Current Ratio

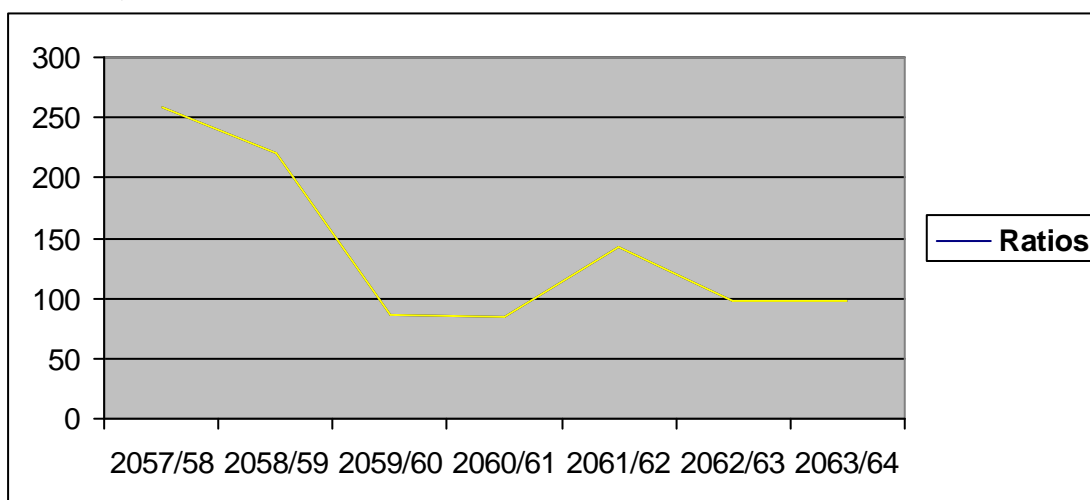
(Rs in Million)

Fiscal year	Current Assets	Current Liabilities	Ratio (times)
2057/58	109.87	42.57	2.58:1
2058/59	94.24	42.83	2.20:1
2059/60	88.65	101.45	0.87:1
2060/61	99.85	116.83	0.85:1
2061/62	122.30	86.21	1.42:1
2062/63	74.90	758.70	0.98:1
2063/64	67.57	69.84	0.97:1
Total	657.38	535.43	-
Average	93.91	76.49	1.41:1

The above figure shows that the current ratio reported 2.58:1 in the FY 2057/58 to 0.85:1 in the FY 2060/61 indicating wide fluctuations. Observing the figure one may note that except in the FY 2059/60 & 2060/61, 2062/63 & 2063/64 none of the ratios calculated in the fiscal years under study were below 1:1. But in the FY 2059/60 & 2060/61 2062/63 & 2063/64 current ratio were below 1:1 which indicated that the NDL did not have a sound or satisfactory liquidity position. The most favorable current ratio was observed in the FY 2061/62 when the ratio recorded 1.42:1.

This can be represented in the following trend line to show the ratios in relation with current assets and current liabilities.

Figure 6: Trend Line showing Current Ratio (F/Y 2057/58 to 2063/64)



4.4. Analysis of Quick Ratio

The ratio conveys the most precise information on liquidity position of a firm, since; it excludes the inventory, the least liquid asset from the current assets and compares it with current liabilities. Inventory when excluded from current assets is called quick assets. The preceding ratio analysis, i.e. the current ratio analysis fails to convey information regarding composition of the current assets of a firm. Current assets are composed of cash and bank balance, Short- time marketable securities, receivable and inventory. However, inventory is not capable of readily converting into cash and therefore it is the less liquid compared to other composition of the current assets. Thus this quick ratio is more reliable measure of liquidity than current ratio. Quick ratio is so called because it measures the capacity of a firm to convert its current assets quickly into cash in order to meet its current liabilities.

Table – 11: Analysis of Quick Ratio

(Rs in Million)

Fiscal year	Quick Assets	Current Liabilities	Ratio (times)
2057/58	41.10	42.57	0.96:1
2058/59	43.37	42.83	1.01:1
2059/60	39.95	101.45	0.39:1
2060/61	43.20	116.83	0.37:1
2061/62	78.82	86.21	0.91:1
2062/63	43.49	75.70	0.57:1
2063/64	33.05	69.84	0.47:1
Total	322.98	535.43	-
Average	46.14	76.49	0.67:1

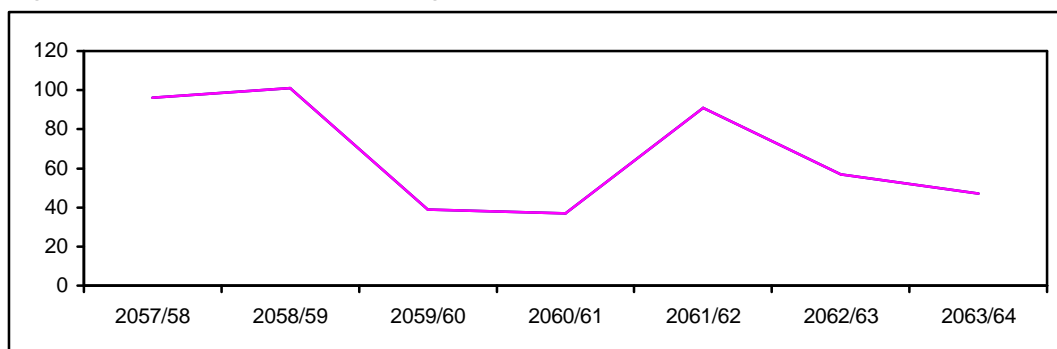
The standard quick ratio to be maintained by the enterprise is 1:1. From the above table, one may conclude that the ratios obtained were satisfactory for the fiscal year 2057/58, 2061/62, since during these fiscal years the ratios tend to be around the standard ratio of 1:1. In fact, in the fiscal year 2058/59, the ratio exactly coincides with the standard ratio of 1:1. However, other ratios for rest of the fiscal years were below the standard ratio, and as such liquidity positions for the corresponding years were unsatisfactory.

A note worthy point of observation here is, in the FY 2061/62, where the current ratio calculated in table. No: 10 i.e. 1.42:1 suggested liquidity position to be satisfactory. On the contrary, the quick ratio calculated for the same fiscal year i.e. 0.91:1, revealed the liquidity position to be favourable. The interpretation that can be reduced by cross examination in terms of current ratio and quick ratio in this case is that, though in the FY 2061/62 the liquidity position as revealed by current ratio was found satisfactory, a large part of the current assets was tied-up in slow-moving and non-salable inventories and slow-paying debts. Thus, the analyses of

liquidity position by these both methods gave a precise, insight into the liquidity position of NDL.

This can be represented in the following trend line showing the quick ratios in relation with quick assets to current liabilities.

Figure 7: Trend Line showing Quick Ratios (F/Y 2057/58 to 2063/64)



4.5. Analysis of Receivables Turnover Ratio

This ratio shows how quickly receivables are converted into cash. The ratio shows how well the debtors were handled by the company. In connection with this ratio, average collection period is also calculated. Higher ratio and shorter average collection period indicates better trade credit management and better liquidity of debtors, and consequently better liquidity of the enterprise. Likewise, lower ratio and longer average collection period signals delayed payments by the debtors.

Table – 12: Analysis of Receivables Turnover Ratio:

(Rs in million)

Fiscal year	Sales	Receivables	Ratio (times)	Average Collection days
2057/58	114.31	19.27	5.93	61
2058/59	81.56	19.58	4.16	86
2059/60	60.11	16.81	3.57	101
2060/61	66.21	19.99	3.31	109
2061/62	51.81	16.34	3.17	114
2062/63	50.26	16.90	2.97	123
2063/64	52.70	14.44	3.65	100
Total	476.96	123.33	-	-
Average	68.14	17.62	3.82	99

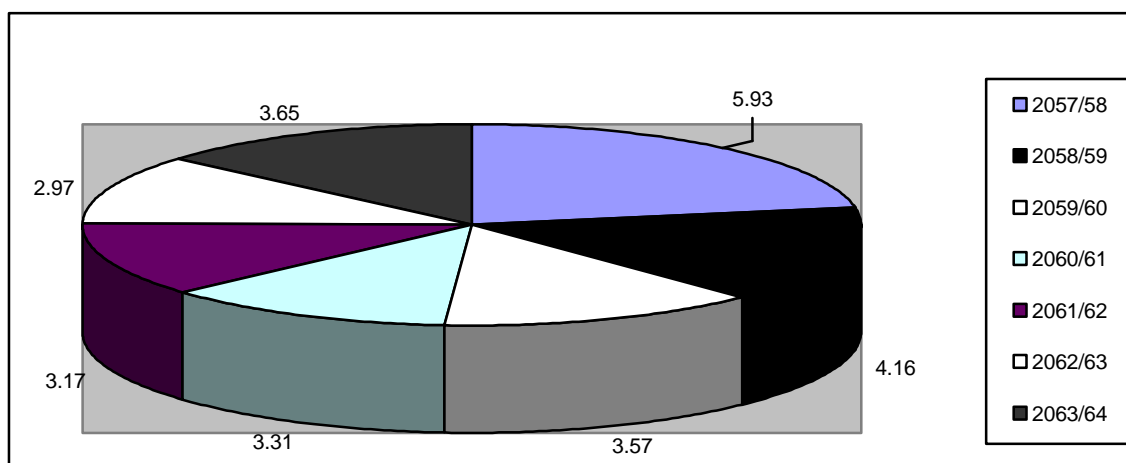
From the above table shows that the ratios are moderately fluctuating and vary from the lowest of 2.97 times to the highest of 5.93 times and average collection days of 61 days to 123 days in the fiscal year 2057/58 and 2063/64 respectively.

Likewise, the average collection days vary from 61 days to 123 days and overall, the average of average collection days is 99 days. Since the information regarding credit days extended to customers were not available, and moreover, such credit days were likely to vary depending upon the nature of debtors, there was no absolute means of comparison available to compare the average collection days. So, analysis regarding average collection days was carried-out.

However, it should be noted that too short average collection days doesn't necessarily imply that the firm is functioning well, for it indicates a very restrictive credit and collection policy thereby restricting its sales only to those debtors whose financial conditions are sound and who make their payments readily. Such restrictive policy would definitely avoid bad debts but the sales volume is likely to be curtailed by large proportion. Consequently, the overall profitability of the firm goes down.

It can be represented in the following pie chart showing receivable turnover ratios in relation with sales to receivables.

Figure 8: Pie Chart showing Receivable Turnover Ratios



4.6. Analysis of Inventory Turnover Ratio

This ratio is yet another way of analyzing the liquidity of an enterprise. This ratio shows how effectively a firm is managing its assets and whether or not the level of those assets is properly related to the level of operations as measured by sales. High inventory turnover ratio indicates better inventory management and vice-verse. However, very high inventory turnover ratio is indicative of under-investment in or very low level of inventory; and as such implies that the firm has not been meeting customer demand. So, a firm should go for an optimum inventory turnover ratio, which signifies sound inventory management.

Table – 13: Analysis of Inventory Turnover Ratio:

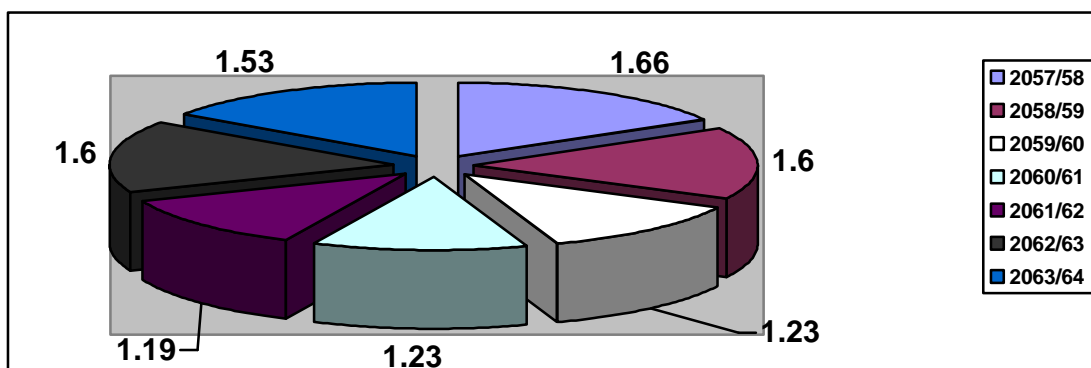
(Rs in Million)

Fiscal year	Sales	Inventory	Ratio (times)
2057/58	114.31	68.77	1.66
2058/59	81.56	50.87	1.60
2059/60	60.11	48.71	1.23
2060/61	66.21	53.65	1.23
2061/62	51.81	43.47	1.19
2062/63	50.26	31.40	1.60
2063/64	52.70	34.52	1.53
Total	476.96	331.39	-
Average	68.14	47.34	1.43

The above table shows that the ratio fluctuated from 1.19 times to 1.66 times and these occur in 2061/62 and 2057/58. The ratios for the fiscal year 2057/58 was 1.66 times, the highest of all ratios, has definitely suggested that during the period, either the company should have undergone underinvestment or the inventory held was comparatively lower. The fluctuation is moderate and the overall ratio is 1.43 times.

This can be represented in the following pie chart showing inventory turnover ratios in relation with sales to inventory.

Figure 9: Pie Chart showing Inventory Turnover Ratios



4.7. Analysis of Cash and bank Balance to Account Receivable

This ratio measures the relationship between the cash balance on hand to account receivable. The higher ratio indicates better liquidity position and vice-versa. However, too high ratio indicates excessive cash balances.

Table – 14: Analysis of Cash and Bank Balance to Account Receivable

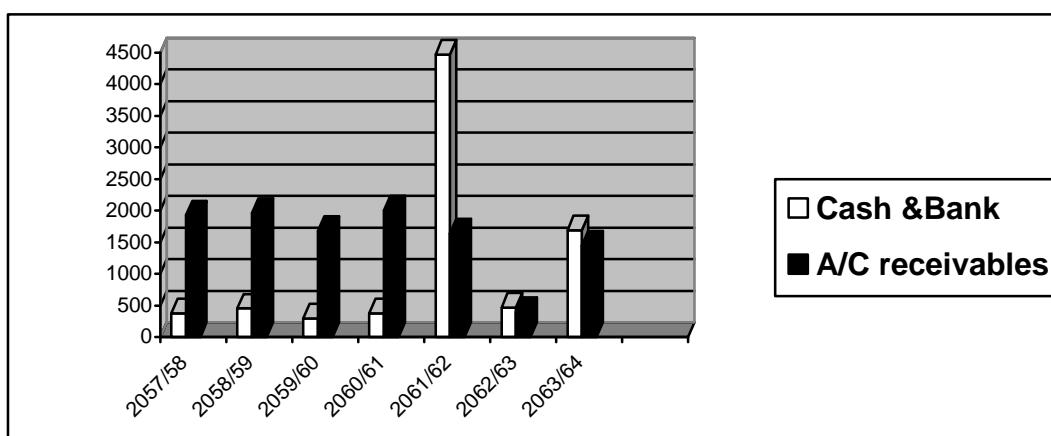
(Rs in Million)			
Fiscal year	Cash & Bank	Account Receivable (AR)	Percentage of A.R.
2057/58	3.79	19.27	19.67%
2058/59	4.50	19.58	22.98%
2059/60	2.94	16.81	17.49%
2060/61	3.76	19.99	18.81%
2061/62	44.69	16.34	273.50%
2062/63	4.67	16.90	27.63%
2063/64	3.97	14.44	27.49%
Total	68.32	123.33	-
Average	9.76	17.62	58.22%

The table shows that the ratio or percentage of account receivables fluctuated from 17.49% to 273.50%, showing an erratic fluctuation. In the

fiscal year 2061/62, the percentage of account receivables was 273.50% which indicated that the cash balance held was excessive. The erratic fluctuations suggest that the company did not follow a definite policy regarding how much cash balance to hold at the fiscal year end. The average percentage of account receivable is 58.22%.

It can be presented with the help of graph to show the relationship between cash and bank balance and account receivable.

Figure10: Cash & Bank Balance to A/C Receivables (F/Y 2057/58 to 2063/64)



4.8. Analysis of Cash and Bank Balance to Current Assets

The cash is the most liquid current asset and as such more the amount of cash balance in an enterprise, more liquid the enterprise in meeting its current obligations. However, bearing excess cash signifies cash balance being held idle without any motive.

The ratio of cash and Bank to current assets indicate the proportion of cash balance in the current assets. Stable pattern of ratio for different fiscal years indicate that the company was following a systematic policy regarding how much cash balances to hold at the fiscal year end

Table–15: Analysis of Cash and Bank Balance to Current Assets

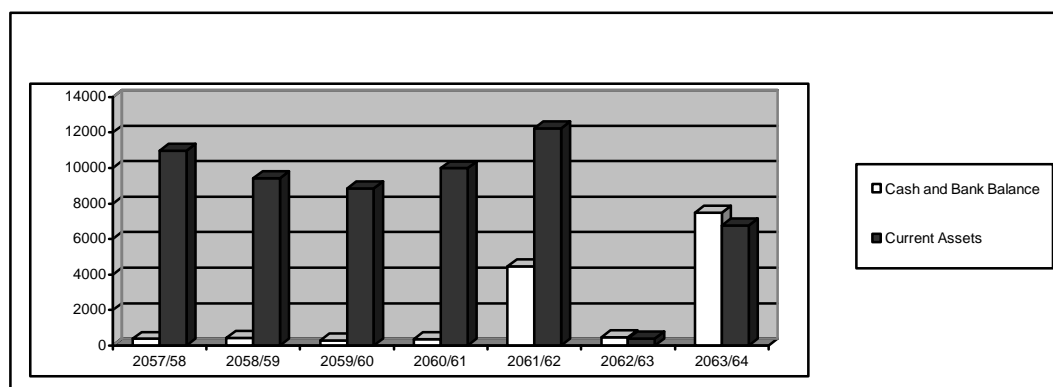
(Rs. in million)

Fiscal year	Cash & Bank	Current Assets	Ratio of cash and bank to current Assets	Difference Ratio
2057/58	3.79	109.87	3.45%	-
2058/59	4.50	94.24	4.77%	1.32
2059/60	2.94	88.65	3.32%	(1.45)
2060/61	3.76	99.85	3.76%	0.44
2061/62	44.69	122.30	36.54%	32.78
2062/63	4.67	74.90	6.23%	(30.31)
2063/64	3.97	67.57	5.87%	(0.36)
Total	68.32	657.38	-	-
Average	9.76	93.91	9.13%	-

The above table shows the percentage of cash and bank balance to current Assets of the NDL. The table indicates that the cash and bank balance with respect to current Assets has fluctuating trend. During the study period the percentage of cash and bank balance to current Assets ranged from the lowest of 3.32% to the highest of 36.54% in the fiscal years 2059/60, and 2061/62 respectively. Attention has been drawn in the FY 2057/58, 2059/60 & 2060/61 where the percentage of cash and bank balance to current assets was very low with 3.45% 3.32% and 3.76% only. These data showed that the company was in cash scarcity to meet short-term payments during this fiscal year. On an average the projection of cash and Bank Balance to current Assets for the study period is 9.13%.

It can be presented with the help of graph to show the relationship between cash and Bank Balance and current Assets.

Figure 11: Cash & Bank Balance to Current Assets



4.9. Analysis of Cash and Bank Balance to current Liabilities

Among the technique of measuring corporate liquidity, the ratio of cash and Bank Balance to current liabilities may also be used as an index of cash management. This ratio indicates the amount of cash (in percentage) available to pay the current obligation of the firm. A moderate ratio is considered satisfactory, too high ratio indicates excess cash balance and too low ratio is indicative of company being unable to meet its payment of current liabilities in time.

Table – 16 Analysis of Cash and Bank Balance to current liabilities

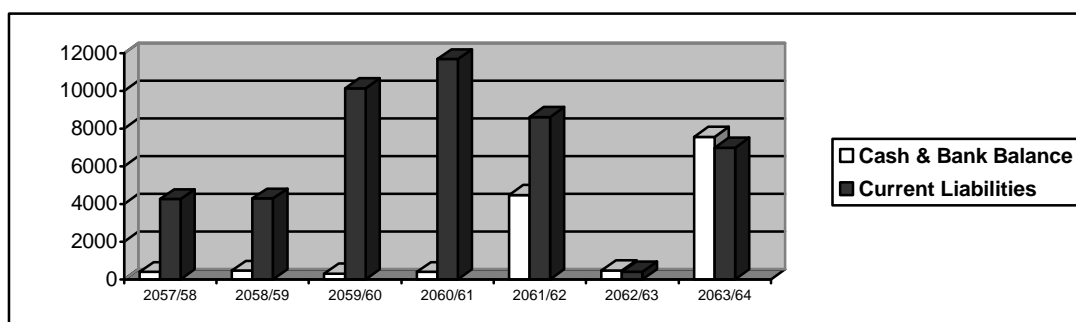
(Rs in million)

Fiscal year	Cash & Bank	Current Liabilities	Ratio (%)
2057/58	3.79	42.57	8.90%
2058/59	4.50	42.83	10.51%
2059/60	2.94	101.45	2.90%
2060/61	3.76	116.83	3.22%
2061/62	44.69	86.21	51.84%
2062/63	4.67	75.70	6.17%
2063/64	3.97	69.84	5.68%
Total	68.32	535.43	-
Average	9.76	76.49	12.75%

The table shows that the ratios fluctuate from the lowest of 2.90% to the highest of 51.84% in the fiscal years 2059/60 and 2061/62. The above table has clearly indicated that the company did not follow a systematic cash management practice. The average ratio is 12.75%.

It can also be presented with the help of graph to show the relationship between cash and Bank Balance and current liabilities.

Figure – 12 Cash and Bank Balance to Current Liabilities



4.10. Analysis of Net Profit Margin Ratio

Net profit Margin ratio measures the relationship between net profits and sales of a firm. A high profit margin indicates adequate return to the firm and thus enables it with standing in adverse economic situations when sales price is declining, cost of production is rising and demand for the product is falling.

Table – 17: Analysis of Net profit Margin Ratio:

(Rs in million)

Fiscal year	Net profit After Tax (loss)	Sales	Ratio (%)
2057/58	(23.00)	114.31	(20.12)%
2058/59	(27.01)	81.56	(33.12)%
2059/60	(82.22)	60.11	(136.68)%
2060/61	(36.13)	66.21	(54.57)%
2061/62	(60.88)	51.81	(117.51)%
2062/63	(41.63)	50.26	(182.83)%
2063/64	(26.61)	52.70	(50.49)%
Total	(297.48)	476.96	-
Average	(42.50)	68.14	(70.76)

The table shows that the company loss in most of the fiscal years. Noticeably in the FY 2059/60, the net profit margin ratio was (136.78) %. Overall, the company was been operating in loss and it was in increasing trend. The average net profitability margin is (70.76) %

4.11. Analysis of Net Profit after Tax to Quick Assets

This ratio also examines profitability of a firm; analyses proportion of quick assets in earning the profit amount. Higher ratio indicates higher utilization of quick assets in earning profit and vice-versa.

Table-18 Analysis of Net Profit after to Quick Assets:

(Rs in million)

Fiscal year	Net Profit After Tax (loss)	Quick Assets	Ratio (%)
2057/58	(23.00)	41.10	(55.96)%
2058/59	(27.01)	43.37	(62.28)%
2059/60	(82.22)	39.94	(205.86)%
2060/61	(36.13)	46.20	(78.20)%
2061/62	(60.88)	78.82	(77.24)%
2062/63	(41.63)	43.49	(95.72)%
2063/64	(26.61)	33.05	(80.51)%
Total	(297.48)	322.98	-
Average	(42.50)	43.49	(93.68)%

The table shows that the ratio has been found highly dissatisfactory. The figures clearly indicated that the utilized quick assets did not earn profit in the average, rather suffering average loss of Rs 42.50 million. In all other FYs the ratio was of negative value ranging from the lowest of (55.96) % to the highest of (205.86) %. Situation was worsening in recent the FYs 2059/60, 2060/61 2061/62,2062/63 &2063/64 where the ratios were (205.86) %, (78.20) % (77.24) %, (95.72)% &(80.51)%. Overall, the average ratio is (93.68) % which definitely signifies worse situation.

4.12. Analysis of Dispersion in Cash and Bank Balance

Table -19 shows the dispersion in the cash balances at the year ends during the period study. 'Standard deviation' is the measures of dispersion used for the analysis.

Table – 19 Analysis of Dispersion in Cash and Bank Balance:

(Rs in million)

Fiscal year	Cash and Bank (X)	$(X - \bar{X})$	$(X - \bar{X})^2$
2057/58	3.79	-6.64	44.09
2058/59	4.50	-5.93	35.16
2059/60	2.94	-7.49	56.10
2060/61	3.76	-6.67	44.49
2061/62	44.69	34.26	1173.75
2062/63	4.67	-5.09	25.91
2063/64	3.97	-5.79	33.52
Total	68.32		1413.02
N=7			

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{68.32}{7} = 9.76$$

$$\begin{aligned} \text{Standard Deviation} &= \sqrt{\frac{1}{N} \sum (X - \bar{X})^2} \\ &= \sqrt{\frac{1413.02}{7}} \\ &= \text{Rs. 14.21 million} \end{aligned}$$

Interpretation

The computed standard deviation was Rs 14.21 million, which indicated very high degree of uniformity in holding cash balance in the fiscal year end.

The calculation of coefficient of variation (C.V) further shows that the uniformity of cash balances held is very high.

$$\begin{aligned} \text{Coefficient of variation (C.V.)} &= \frac{\dagger}{X} \\ &= \frac{14.21}{9.76} \times 100 \\ &= 145.57\% \end{aligned}$$

Interpretation

Lower C.V. indicates higher consistency or highly stable cash balance where as higher C.V. indicates just the opposite. C.V. of 145.57% definitely signifies that the homogeneity in holding cash balance is very high.

4.13. Fitting the straight line trend by least square method for variations in cash and bank balance

This is one of the time series analyses, where future events of a variable (s) are forecasted over a regular interval of time based on the past events of the variables (s). Here, an effort has been made to forecast cash balance of NDL for the next fiscal years, based on its past trend.

Table -20: Fitting the straight line trend by least square method for variations in cash balance (Rs in million)

Fiscal year	(Y) Cash and Bank	Deviation from (2060/61) (X)	XY	X ²
2057/58	3.79	-3	-11.37	9
2058/59	4.50	-2	-9	4
2059/60	2.94	-1	-2.94	1
2060/61	3.76	0	0	0
2061/62	44.69	1	44.69	1
2062/63	4.67	2	9.34	4
2063/64	3.97	3	11.91	9
Total	∑Y=68.32	∑X=0	∑XY=42.63	∑X ² =28

The equation of straight line trend is given by $Y_c = a + bx$

$$\text{Here, } a = \frac{\sum Y}{N} = \frac{68.32}{7} = 9.76$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{42.63}{28} = 1.52$$

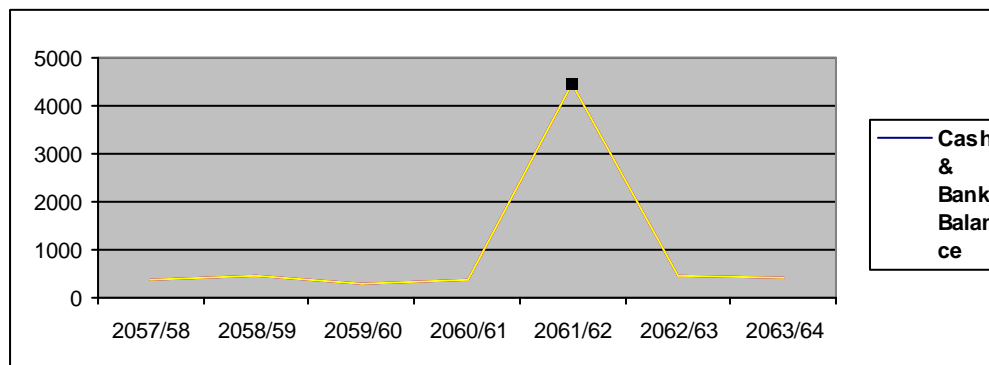
$$Y_c = a + bx$$

$$= 9.76 + 1.52 X$$

Interpretation

The trend line shows positive figure of cash balance in the next year. The annual rate of increment in cash balance would be Rs $1.52 \times 1000,000 =$ Rs 15,20,000.

Figure 13: Trend line for variation in cash balance



4.14. (A): Analysis of Karl Pearson's coefficient of correlation (r) between sales and cash balance

To find correlation between sales and cash balance, Karl Pearson's coefficient of correlation (r) is determined. For this purpose sales (x) are assumed to be dependence variables and cash balance (Y) are assumed to be independent variables. At first it is assumed that actual sales will increase as cash balance will increase and vice-versa. It means there should be positive correlation between cash balance and sales. The significance of correlation 'r' is rested with probable error (P.E.).

Table – 21: Analysis of Karl Pearson's coefficient of correlation (r) between sales and cash balance

(Rs in Million)

Fiscal year	Sales (x)	Cash Balance (Y)	$(\frac{x-\bar{X}}{\mu})$	$(\frac{y-\bar{Y}}{v})$	μv	μ^2	v^2
2057/58	114.31	3.79	46.17	-5.97	-275.63	2131.67	35.64
2058/59	81.56	4.50	13.42	-5.26	-70.59	180.09	27.67
2059/60	60.11	2.94	-8.03	-6.82	54.76	64.48	46.51
2060/61	66.21	3.76	-1.93	-6.0	11.58	3.72	36.0
2061/62	51.81	44.69	16.33	34.93	570.41	266.67	1220.10
2062/63	50.26	4.67	17.88	-5.09	91.01	319.69	25.91
2063/64	52.70	3.97	15.44	-5.79	89.40	238.39	33.52
	$\sum x=476.96$	$y=68.32$			$\mu v=-669.88$	$\mu^2=3204.71$	$v^2=1425.35$

$$\text{Mean}(\bar{X}) = \frac{\sum X}{N} = \frac{476.96}{7} = 68.14$$

$$\text{Mean}(\bar{Y}) = \frac{\sum Y}{N} = \frac{68.32}{7} = 9.76$$

$$\begin{aligned} \text{Karl Pearson's Correlation (r)} &= \frac{\sum \mu v}{\sqrt{\sum \mu^2 \cdot \sum v^2}} \\ &= \frac{-669.88}{\sqrt{(3204.71)(1425.35)}} \\ &= -0.3134 \end{aligned}$$

This shows that there exists negative correlation between sales volume and cash balance.

Since, correlation (r) is negative; in order to compare it with probable error |r| has been calculated as follows:

$$r = -0.3134$$

$$|r| = |-0.3134| = 0.3134$$

Calculation of probable Error P.E.

$$\begin{aligned}
\text{Probable Error (P.E)} &= \frac{0.6745(1Z|r|^2)}{\sqrt{N}} \\
&= \frac{0.6745\{1Z(0.3134)^2\}}{\sqrt{7}} \\
&= 0.2299
\end{aligned}$$

$$6 \times (\text{P.E.}) = 6 \times 0.2299 = 1.3794$$

Now, if $r > 6 (\text{P.E.})$, it is indicative of statistically significant positive correlation. Likewise, if $r < (\text{P.E.})$, it is indicative of statistically insignificant positive correlation.

But in this case, $\text{P.E.} < |r| < 6 (\text{P.E.})$. i.e. $0.2299 < 0.3134 < 1.3794$, this implies, though there exists negative correlation between the two, no conclusion could be derived as to statistically significant/ insignificant. Therefore, this correlation analysis indicated that the sales did not significantly the cash balance.

This shows that the company has not been practically following the general rule of higher sales volume, higher cash balance and vice-versa.

The upper and lower limits within which the correlation coefficient is expected to lie are given by;

$$r + \text{P.E.} = -0.3134 + 0.2299 = -0.0835 (\text{upper limit})$$

$$r - \text{P.E.} = -0.3134 - 0.2299 = -0.5433 (\text{lower limit})$$

So, the coefficient of correlation is expected to lie between -0.0835 and -0.5433.

4.14. (B): Regression Analysis

A regression line can also be fitted to show the degree of relationship between sales and cash balance. Cash balance can be forecasted by the value of sales. For this purpose, cash balance and sales have been assumed interrelated economic variables.

The regression line of sales (X) on cash balance (Y) is given by,

$$(X Z \bar{X}) X r. \frac{\uparrow X}{\uparrow Y} (Y Z \bar{Y})$$

Where,

$$\bar{X} = \text{Mean sales} = 68.14$$

$$\bar{Y} = \text{Mean cash balance} = 9.76$$

x = standard deviation of sales

$$= \sqrt{\frac{(X Z \bar{X})^2}{N}}$$

$$= \sqrt{\frac{3204.71}{7}}$$

$$= \text{Rs. 21.40 million}$$

y = Standard deviation of cash.

$$= \sqrt{\frac{(Y Z \bar{Y})^2}{N}}$$

$$= \sqrt{\frac{1425.35}{7}}$$

$$= \text{Rs. 14.27 million.}$$

r = Karl Pearson's coefficient of correlation = - 0.3134

Now,

$$(X Z \bar{X}) X r. \frac{\uparrow X}{\uparrow Y} (Y Z \bar{Y})$$

$$\text{Or, } (X - 68.14) = -0.3134 \left| \frac{21.40}{14.27} (Y - 9.76) \right.$$

$$\text{Or, } (X - 68.14) = -0.4699 (Y - 9.76)$$

$$\text{Or, } X = -0.4699Y + 72.73$$

$$X = 72.73 - 0.4699Y$$

This equation shows that sales are estimated to increase by 0.4699 per unit decrease in cash balance.

Likewise, the regression line of cash balance (Y) on sales (X) can be computed as follows.

$$(Y Z \bar{Y}) X r. \frac{\uparrow Y}{\uparrow X} (X Z \bar{X})$$

$$\text{Or, } (Y - 9.76) = -0.3134 \left| \frac{14.27}{21.40} (X - 68.14) \right.$$

$$\text{Or, } Y - 9.76 = -0.2090 (X - 68.14)$$

$$\text{Or, } Y - 9.76 = -0.2090X + 14.24$$

$$Y = 24.0 - 0.2090X$$

This shows that cash balance is estimated to increase by 0.2090 units per decrease in sales.

4.15. (A) Analysis of Karl Pearson's coefficient of correlation (r) between Account Receivables and cash balance

To find out the correlation between account receivables and cash balance, Karl Pearson's coefficient of correlation (r) is determined. For this purpose account receivables and cash balance are assumed to be interrelated variables. Let us assume receivables as 'X' are dependent variables and cash balance 'Y' are independent variables.

Table-22: Analysis of Karl Pearson's coefficient of correlation between Account receivables and cash balance:

(Rs in million)

Fiscal year	Receivable (X)	Cash (Y)	(x- \bar{X}) (μ)	(y- \bar{Y}) (v)	μv	μ^2	v^2
2057/58	19.27	3.79	1.65	-5.97	-9.85	2.72	35.64
2058/59	19.58	4.50	1.96	-5.26	-10.31	3.84	27.67
2059/60	16.81	2.94	-0.81	-6.82	5.52	0.66	46.51
2060/61	19.99	3.76	2.37	-6.0	-14.22	5.62	36.0
2061/62	16.34	44.69	-1.28	34.93	-44.71	1.64	1220.10
2062/63	16.60	4.67	-0.72	-5.09	3.66	0.52	25.91
2063/64	14.44	3.97	-3.18	-5.79	18.41	10.11	33.52
Total	$\Sigma=123.33$	68.32			-55.16	25.11	1425.35

$$\text{Mean } (\bar{X}) = \frac{X}{N} = \frac{123.33}{7} = 17.62$$

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} = \frac{68.32}{7} = 9.76$$

$$\dots \text{ Karl Pearson's Correlation } (r) = \frac{\sum \mu v}{\sqrt{\sum \mu^2 \cdot \sum v^2}}$$

$$= \frac{Z55.16}{\sqrt{(25.11)(1425.35)}} = -0.2916$$

This shows that there exists negative correlation between account receivable and cash balance.

Since, correlation (r) is negative; in order to compare it with probable error |r| has been calculated as follows.

$$r = -0.2916$$

$$|r| = |-0.2916| = 0.2916$$

Now,

Calculation of probable error (P.E.)

$$\begin{aligned} \text{P.E.} &= \frac{0.6745(1Z|r|^2)}{\sqrt{N}} \\ &= \frac{0.6745\{1Z(0.2916)^2\}}{\sqrt{7}} \\ &= 0.2332 \\ 6(\text{P.E.}) &= 6 \times 0.2332 \\ &= 1.3992 \end{aligned}$$

Now, If $|r| > 6(\text{P.E.})$, it is indicative of statistically significant negative correlation. Likewise, if $|r| < \text{P.E.}$, it is indicative of statistically insignificant negative correlation.

But in this case, $\text{P.E.} < |r| < 6(\text{P.E.})$, i.e. $0.2327 < 0.2953 < 1.3962$. This implies, though there exists negative correlation between the two, no conclusion could be derived as to statistically significant/insignificant. Therefore, this correlation analysis indicated that the cash balance did not increase with increase in account receivables.

The upper and lower limits within which the correlation coefficient is expected to lie are given by.

$$r + \text{P.E.} = -0.2916 + 0.2332 = -0.0584 \text{ (Upper Limit)}$$

$$r - \text{P.E.} = -0.2916 - 0.2332 = -0.5248 \text{ (Lower Limit)}$$

So, the correlation coefficient is expected to lie between -0.0584 and -0.5248 .

4.15. (B): Regression Analysis

A regression line can also be fitted to show the degree relationship between account receivables and cash balance.

The regression line of receivable (X) on cash balance (Y) is given by,

$$(X - \bar{X}) = |r| \cdot \frac{\sum X}{\sum Y} (Y - \bar{Y})$$

Where,

$$\bar{X} = \text{Mean receivables} = 17.62$$

$$\bar{Y} = \text{Mean Cash balance} = 9.76$$

$\sum x$ = standard deviation of receivables

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

$$= \sqrt{\frac{25.11}{7}}$$

$$= \text{Rs. 1.8940 million}$$

$\sum y$ = Standard deviation of cash balance

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

$$= \sqrt{\frac{1425.35}{7}}$$

$$= \text{Rs. 14.27 million}$$

$$r = \text{Karl Pearson's coefficient of correlation} = -0.2916$$

Now,

$$(X - \bar{X}) = r \frac{\sum x}{\sum y} (Y - \bar{Y})$$

$$\text{Or, } (X - 17.62) = -0.2916 \frac{1.8940}{14.27} (Y - 9.76)$$

$$\text{Or, } (X - 17.62) = -0.0387 (Y - 9.76)$$

$$\text{Or, } X - 17.62 = -0.0387Y + 0.3777$$

$$\dots X = 17.99 - 0.0387Y$$

This equation shows that receivables are estimated to increase by 0.0387 per unit decrease in cash balance.

Likewise, the regression line of cash balance (Y) on receivables (X) can be computed as follows.

$$(Y - \bar{Y}) X r = \frac{\sum y}{\sum x} (X - \bar{X})$$

$$\text{Or, } (Y - 9.76) = -0.2916 \times \frac{14.27}{1.8940} (X - 17.62)$$

$$\text{Or, } (Y - 9.76) = -2.1970 (X - 17.62)$$

$$\text{Or } Y - 9.76 = -2.1970X + 38.71$$

$$\dots Y = 48.47 - 2.1970X$$

This shows that cash balance is estimated to increase by 2.1970 per unit decrease in receivable.

4.16. Analysis of Karl Pearson's coefficient of correlation (r) between 'current Assets and cash balance

To find – out the correlation between current assets and cash balance, Karl Pearson's coefficient of correlation (r) is determined. For this purpose current assets and cash balance are assumed to be interrelated economic variables. Let us assume current assets as 'X' are dependent variables and cash balance 'Y' are independent variables.

Table – 23: Analysis of Karl Pearson's coefficient of correlation (r) between current assets and cash balance. (Rs in Million)

Fiscal year	Current Assets (X)	Cash (Y)	(X - \bar{X}) (μ)	(Y - \bar{Y}) (ν)	μν	μ ²	ν ²
2057/58	109.87	3.79	15.96	-5.97	-95.28	254.72	35.64
2058/59	94.24	4.50	0.33	-5.26	-1.73	0.1089	27.67
2059/60	88.65	2.94	-5.26	-6.82	35.87	27.67	46.51
2060/61	99.85	3.76	5.94	-6.0	-35.64	35.28	36.0
2061/62	122.30	44.69	28.39	34.93	991.66	805.99	1220.10
2062/63	74.90	4.67	-19.01	-5.09	96.76	361.38	25.91
2063/64	67.57	3.97	-26.34	-5.79	152.51	693.79	33.52
Total	657.38	68.32			1144.15	2178.94	1425.35

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{65738}{7} = 9391$$

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} \times \frac{68.32}{7} \times 9.76$$

$$\begin{aligned} \dots \text{ Karl Pearson's Correlation } (r) &= \frac{\sum xy}{\sqrt{\sum x^2 \cdot \sum y^2}} \\ &= \frac{1144.15}{\sqrt{(2178.94) \cdot (1425.35)}} \\ &= 0.6492 \end{aligned}$$

This shows that there exists positive correlation between current assets and cash balance. The correlation should be statistically significant to ascertain that there practically exists correlation between the two variables. For this purpose, probable error was calculated as follows.

$$\begin{aligned} \text{Probable Error (P.E)} &= \frac{0.6745(1 Z r^2)}{\sqrt{N}} \\ &= \frac{0.6745\{1 Z (0.6492)^2\}}{\sqrt{7}} \\ &= 0.1475 \end{aligned}$$

$$6 \times (\text{P.E}) = 6 \times 0.1475 = 0.885$$

Now, If $r > 6 (\text{P.E})$, it is indicative of statistically significant positive correlation.

Likewise, If $r < (\text{P.E})$, it is indicative of statistically insignificant positive correlation.

But in this case, $\text{P.E.} < r < 6 (\text{P.E})$, i.e. $0.1475 < 0.6492 < 0.885$. This implies, though there exists positive correlation between the two, no conclusion could be derived as to statistically significant/insignificant.

This shows that the company has not been practically following the general rule of higher current-assets, higher cash balance and vice-versa.

The upper and lower limits within which the correlation coefficient is expected to lie are given by,

$$r + \text{P. E} = 0.6492 + 0.1475 = 0.7967 \text{ (Upper Limit)}$$

$$r - \text{P. E} = 0.6492 - 0.1475 = 0.5017 \text{ (Lower Limit)}$$

So, the coefficient of correlation is expected to lie between 0.7967 and 0.5017.

4.17. Analysis of Karl Pearson's coefficient of correlation (r) between 'current liabilities and cash balance'

To find-out the correlation between current liabilities and cash balance, Karl Pearson's coefficient of correlation (r) is determined. For this purpose current liabilities and cash balance are assumed to be interrelated economic variables. Let us assumed current liabilities as 'X' are dependent variables and cash balance 'Y' are independent variables.

Table – 24: Analysis of Karl Pearson's coefficient of correlation (r) between current liabilities and cash balance
(Rs in Million)

Fiscal year	Current Liabilities (X)	Cash (Y)	(X- \bar{X}) (μ)	(Y- \bar{Y}) (ν)	$\mu\nu$	μ^2	ν^2
2057/58	42.57	3.79	-33.92	-5.97	202.50	1150	35.64
2058/59	42.83	4.50	-33.66	-5.26	177.05	1132.99	27.67
2059/60	101.45	2.94	24.96	-6.82	-170.23	623.0	46.51
2060/61	116.83	3.76	40.34	-6.0	-242.04	1627.31	36.0
2061/62	86.21	44.69	9.72	34.93	339.52	94.48	1220.10
2062/63	75.70	4.67	-0.79	-5.09	4.02	0.62	25.91
2063/64	69.84	3.97	-6.65	-5.79	38.50	44.22	33.52
Total	535.43	68.32			349.32	4673.19	1425.35

$$\text{Mean } (\bar{X}) = \frac{X}{N} \times \frac{535.43}{7} \times 76.49$$

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} \times \frac{68.32}{7} \times 9.76$$

$$\begin{aligned} \dots \text{Karl Pearson's Correlation (r)} &= \frac{\sum \mu\nu}{\sqrt{\sum \mu^2 \cdot \sum \nu^2}} \\ &= \frac{349.32}{\sqrt{(4673.19)(1425.35)}} \end{aligned}$$

$$= 0.1353$$

This shows that there exists positive correlation coefficient between current liabilities and cash balance. The correlation should be statistically significant to ascertain that there practically exists correlation between the two variables. For this purpose, probable error was calculated;

Calculation of probable error (P.E)

$$\begin{aligned} \text{Probable Error (P.E)} &= \frac{0.6745(1 Z r^2)}{\sqrt{N}} \\ &= \frac{0.6745\{1 Z (0.1353)^2\}}{\sqrt{7}} \\ &= 0.2503 \end{aligned}$$

$$6 \times (\text{P.E}) = 6 \times 0.2503 = 1.5018$$

Since, $r = 0.1353$, which is lower than probable error $(\text{P.E}) = 0.2503$, i.e. $r < \text{P.E}$, it indicates that positive correlation between these two variables is practically insignificant. In other words, when cash balances held increase, the current liabilities decrease, and vice-versa. So, this definitely shows that there existed cash surplus to meet current liabilities payment.

Upper and lower limit within which the correlation coefficient is expected to lie is given by.

$$r + \text{P.E} = 0.1353 + 0.2503 = 0.3856 \text{ (Upper Limit)}$$

$$r - \text{P.E} = 0.1353 - 0.2503 = - 0.115 \text{ (Lower Limit)}$$

Hence, the correlation coefficient is expected to lie between 0.3856 and -0.115.

4.18. Analysis of Karl Pearson's coefficient of correlation (r) between 'Net profit after tax and cash balance

To find-out the correlation between net profit after tax and cash balance, Karl Pearson's coefficient of correlation (r) is determined. For this purpose, Net profits after tax and cash balance are assumed to be interrelated economic variables. Let us assumed Net profit after tax as 'X' are dependent variables and cash balance 'Y' are independent variables.

**Table – 25: Analysis of Karl Pearson's coefficient of correlation (r)
between Net profit of tax and cash balance**

(Rs in million)

Fiscal year	Net profit after tax (X)	Cash (Y)	(X- \bar{X}) (μ)	(Y- \bar{Y}) (ν)	$\mu\nu$	μ^2	ν^2
2057/58	(23.00)	3.79	19.50	-5.97	-116.41	380.25	35.64
2058/59	(27.01)	4.50	15.49	-5.26	-81.48	239.94	27.67
2059/60	(82.22)	2.94	-39.72	-6.82	270.89	1577.68	46.51
2060/61	(36.13)	3.76	6.37	-6.0	-38.22	40.58	36.0
2061/62	(60.88)	44.69	18.38	34.93	642.01	337.82	1220.10
2062/63	(41.63)	4.67	0.87	-5.09	-4.43	0.76	25.91
2063/64	(26.61)	3.97	15.89	-5.79	-92.0	252.49	33.52
Total	(297.48)	68.32			-580.36	2829.52	1425.35

$$\text{Mean } (\bar{X}) = \frac{X}{N} \times \frac{(297.48)}{7} = 42.50$$

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} \times \frac{68.32}{7} = 9.76$$

$$\begin{aligned} \dots \text{Karl Pearson's Correlation (r)} &= \frac{\sum \mu\nu}{\sqrt{\sum \mu^2 \cdot \sum \nu^2}} \\ &= \frac{580.36}{\sqrt{2829.52 \cdot 1425.35}} \\ &= 0.2890 \end{aligned}$$

This shows that there exists positive correlation coefficient between net profit after tax and cash balance. The correlation should be statistically significant to ascertain that there practically exists correlation between the two variables. For this purpose, probable error was calculated;

$$\text{Probable Error (P.E)} = \frac{0.6745\{1 Z(r^2)\}}{\sqrt{N}}$$

$$\begin{aligned}
&= \frac{0.6745\{1 Z(0.2890)^2\}}{\sqrt{7}} \\
&= 0.2336 \\
6 \times (\text{P.E}) &= 6 \times 0.2336 = 1.4016
\end{aligned}$$

Since $r=0.2890$, which is lower than probable error (P.E.) =0.2336. This implies, though there exists positive correlation between the two, no conclusion could be derived as to statistically significant/insignificant. Therefore, this correlation analysis indicated that the net profit after tax has not been increasing with increase in its cash balance.

The upper and lower limits within which the correlation coefficient is expected to lie are given by;

$$r + \text{P.E} = 0.2890 + 0.2336 = 0.5226 \text{ (Upper Limit)}$$

$$r - \text{P. E} = 0.2890 - 0.2336 = 0.0554 \text{ (Lower Limit)}$$

So, the coefficient of correlation is expected to lie between 0.5226 and 0.0554.

4.19. (c) Trend Analysis

Trend analysis is a method which is the most widely used in practice. Various methods are used for trend analysis; out of which least square method is one of the popular method used in the study. In the present study, the tendency of cash balances, current assets, current liabilities, sales and NPAT are examined during the observation period. The expected future results for three years have been calculated and analyzed.

The projections are based on the following assumptions:

- ❖ The main assumption is that, other things will remain constant.
- ❖ The economy will remain in the present stage.
- ❖ The forecast will be true only when the limitation of least square method is carried out.

4.19.1 Trend Analysis of Cash and Balances

Under this section, trend values of cash and balances have been calculated for seven years from FY 2057/58 to 2063/64 and forecasted for the next three years up to 2066/67.

Table -26 Trend Analysis of Cash and Balances

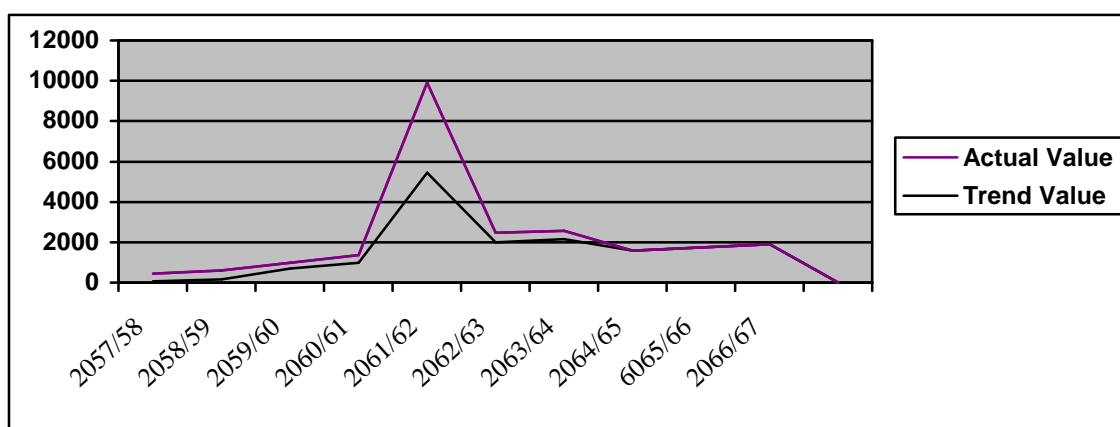
(Rs. Million)

Fiscal Year	Trend Value	Actual Value
2057/58	5.2	3.79
2058/59	1.46	4.50
2059/60	6.82	2.94
2060/61	9.76	3.76
2061/62	54.45	44.69
2062/63	19.10	4.67
2063/64	21.67	3.97
2064/65	15.84	-
2065/66	17.36	-
2066/67	18..88	-

(Source: Appendix 1)

From the above table, NDL's expected cash balance in the FY 2064/65, 2065/66 and 2066/67 are expected to be Rs.15.84 million, Rs. 17.36 million and Rs.18.88 million respectively.

Figure 14: Trend line showing Trend Value & Actual Value of Cash & Balances



The above graph shows the increasing trend of trend and actual value of cash balance to FY 2061/62 then in decreasing and increasing trend every fiscal year.

4.19.2. Trend Analysis of Current Assets

Under this section, trend values of current assets have been calculated for seven years from FY 2057/58 to 2063/64 and forecasted for the next three years up to 2066/67.

Table-27 Trend Analysis of Current Assets

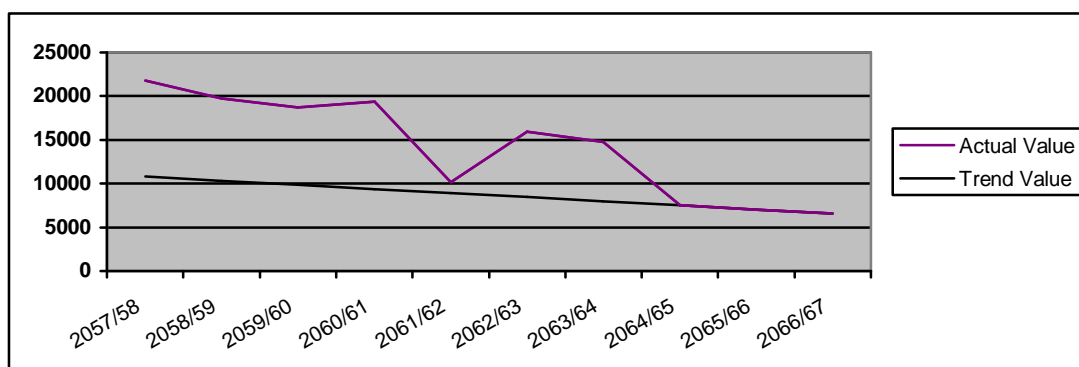
(Rs. Million)

Fiscal Year	Trend Value	Actual Value
2057/58	108.04	109.87
2058/59	103.33	94.24
2059/60	98.62	88.65
2060/61	93.91	99.85
2061/62	89.20	122.30
2062/63	84.49	74.90
2063/64	79.78	67.57
2064/65	75.07	-
2065/66	70.36	-
2066/67	65.65	-

(Source: Appendix 2)

The above table shows that NDL's expected current assets in F/Y 2064/65, 2065/66 and 2066/67 are expected to be Rs.75.07 million, Rs. 70.36 million and Rs.65.65 million respectively.

Figure: 15 Trend line showing Trend Value and Actual Value of Current Assets



The above figure shows that the trend value is in decreasing trend and actual value has increased in the fiscal year 2060/61 then decreasing trend in the rest of the fiscal years.

4.19.3 Trend Analysis of Current Liabilities

Under this section, trend values of current liabilities have been calculated for seven years from FY 2057/58 to 2063/64 and forecasted for the next three years up to 2066/67.

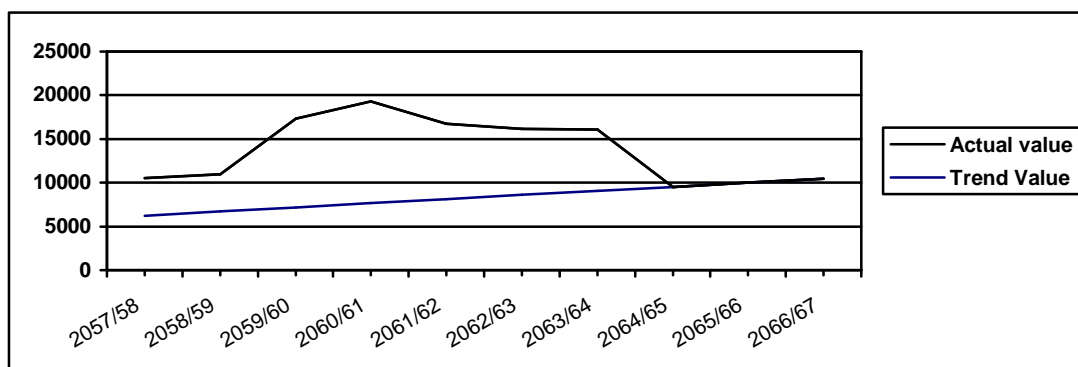
Table-28 Trend Analysis of Current Liabilities

Fiscal Year	Trend Value	Actual Value
2057/58	62.33	42.57
2058/59	67.05	42.83
2059/60	71.77	101.45
2060/61	76.49	116.83
2061/62	81.21	86.21
2062/63	85.93	75.70
2063/64	90.65	69.84
2064/65	95.37	
2065/66	100.09	
2066/67	104.81	

(Source: Appendix 3)

The table shows that NDL's expected current liabilities in the F/Ys 2064/65, 2065/66 and 2066/67 are expected to be Rs.95.37, Rs.100.09 and Rs.104.81 respectively.

Figure: 16 Trend line showing Trend Value and Actual Value of Current Liabilities



The figure shows that the trend value is in increasing trend and actual value has increased in the F/Y 2060/61 and then again in the decreasing trend.

4.19.4 Trend Analysis of Sales

Under this section, trend values of sales have been calculated for seven years from FY 2057/58 to 2063/64 and forecasted for the next three years up to 2066/67.

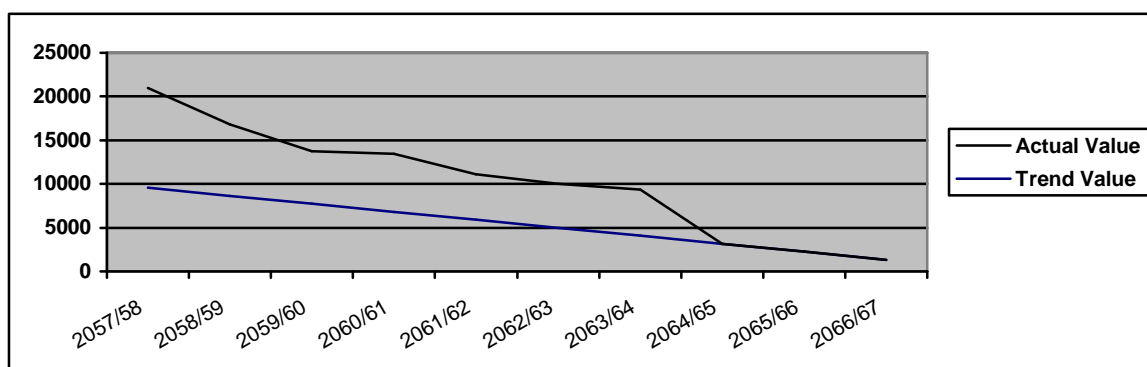
Table-29 Trend Analysis of Sales

Fiscal Year	Trend Value	Actual Value
2057/58	95.53	114.31
2058/59	86.40	81.56
2059/60	77.27	60.11
2060/61	68.14	66.21
2061/62	59.01	51.81
2062/63	49.88	50.26
2063/64	40.75	52.70
2064/65	31.62	-
2065/66	22.49	-
2066/67	13.36	-

(Source: Appendix 4)

The table shows that NDL's expected sales in the F/Ys 2064/65, 2065/66 and 2066/67 are expected to be Rs.31.62, Rs.22.49 and Rs.13.36 respectively.

Figure: 17 Trend line showing Trend Value and Actual Value of Sales



The figure shows that the trend value and actual value of sales is in the decreasing trend.

4.20. Analysis of Cash Flow Statement

Cash flow statement of the company signifies the movements of cash in and out of company. Inflow of cash is known as sources of cash and outflow of cash is known as uses 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, through the basic information used in the preparation of this statement differs from that which is used in recording cash receipts and cash payments in cash inflow and outflow are explained and shown in cash flow statement before highlighting its nature and utility. The actual cash flow statement is presented on the heading of cash flow from operating activities, cash flow from financing activities and cash flow from investing activities for the fiscal year 2059/60 to 2063/64.

4.20.1. Analysis of Operating Activities

Overall, the operating activities of NDL were moderate on account of the fact that there occurred cash inflows as well as outflows from such operating activities in the FYs under study. However, there were high fluctuations in such cash inflows and outflows, ranging from the highest outflow of (Rs 5.23) million in the FY 2060/61 and the highest inflow of Rs 58.28 million in FY 2061/62. A wide fluctuation is favored in view of operating activities.

4.20.2. Analysis of Investing Activities

Investing activities of NDL were the poorest of all three activities involved in cash flow statement. This activity has incurred cash outflows every year ranging from (Rs 0.54) million to (Rs 8.58) million in the FYs 2059/60 and 2063/64. But in the F/Ys 2060/61, 2061/62 and 2062/63 were positive i.e. Rs 0.94 million , Rs 3.12 million &Rs.2057 million respectively. These negative figures, i.e. cash outflows under the heading: Net cash flow from investing activities in the FYs verify the fact that there never occurred cash inflow from investing activities. Only a small portion of surplus cash was invested in short – term investments, and as such, there never occurred cash inflow from investing activities.

4.20.3. Analysis of Financing Activities

Financing activities were the idlest of all the three activities. This activity has been stated as the idlest activity on the grounds that it has neither generated cash inflows nor outflows in the most of the FYs under study. The FYs 2059/60, 2060/61, 2061/62, 2062/63 & 2063/64 generated significant cash inflow of Rs 27.01, 99.07, 101.43, Rs.101.55 and Rs.123.36 million respectively. Thus, the financing activity of the company was the most passive activity, and hence the company should increase its financing activity by various financial activities such as, loan borrowings, issue of shares debentures etc.

Table – 30: Cash Flow Statement FY (2059/60 to 2063/64)

Statements	2059/60	2060/61	2061/62
<u>A: Cash Flow From Operating Activities</u>			
Net profit before taxation & extra ordinary items	-82.22	-36.13	-60.88
Adjustments for:			
a) Depreciation	1.47	1.5	1.54
b) Interest income	8.41	13.29	9.23
Operating profit before working capital change	-72.34	-21.34	-50.11
(Increase)/ Decrease in Current Assets	5.58	-11.19	-22.45
(Increase)/Decrease in Current Liabilities	-58.62	-15.38	30.62
Cash generated from operations	19.3	-5.23	58.28
Income Tax Paid	-	-	-
Net Cash Flow from Operating Activities	19.3	-5.23	58.28
<u>B: Cash Flow From Investing Activities</u>			
(Purchase)/ Sale of Fixed Assets	-0.98	-1.31	-1.53
Interest Received	-	-	-
(Increase)/Decrease in Loan & Deposit	0.44	2.25	4.65
Net Cash Flow from Investing Activities	-0.54	0.94	3.12
<u>C: Cash Flow From Financing Activities</u>			
Proceed from capital subsidy income	-	-	-
Long term debt	27.01	99.07	101.43
Net Cash Flow from Financing Activities	27.01	99.07	101.43
Net Increase/(Decrease) in Cash & Cash Equivalents (A+B+C)	45.77	94.78	162.83
Cash & Cash Equivalents at the Beginning of the Period	4.5	2.94	3.76
Cash & Cash Equivalents at the End of the Period	2.94	3.76	44.69

Statements	2062/63	2063/64
<u>A: Cash Flow From Operating Activities</u>		
Net profit before taxation & extra ordinary items	-41.63	-26.61
Adjustments for:		
a) Depreciation	1.61	1.58
b) Interest income	13.83	7.14
Operating profit before working capital change	-26.19	-17.89
(Increase)/ Decrease in Current Assets	47.40	7.33
(Increase)/Decrease in Current Liabilities	10.51	5.86
Cash generated from operations	31.72	-4.7
Income Tax Paid	-	-
Net Cash Flow from Operating Activities	31.72	-4.7
<u>B: Cash Flow From Investing Activities</u>		
(Purchase)/ Sale of Fixed Assets	-1.56	-1.30
Interest Received	-	-
(Increase)/Decrease in Loan & Deposit	4.13	-7.28
Net Cash Flow from Investing Activities	2.57	-8.58
<u>C: Cash Flow From Financing Activities</u>		
Proceed from capital subsidy income	-	-
Long term debt	101.55	123.36
Net Cash Flow from Financing Activities	101.55	123.36
Net Increase/(Decrease) in Cash & Cash Equivalents (A+B+C)	135.84	110.09
Cash & Cash Equivalents at the Beginning of the Period	44.69	4.67
Cash & Cash Equivalents at the End of the Period	4.67	3.97

4.21. Analysis of Budgeting Allocation Practice of NDL

One of the indications that a company is said to be working under sound condition is when its investment expenses exactly coincide with the prior allocated budget. However, in practice rarely did these two coincide, and as such tendency to coincide is indicative of sound cash investment. So, if a ratio of 'Approved Budget' to expenses is 1:1, it indicates that cash investment decision in the firm is in its best suit. A ratio nearing to 1:1 can also be considered satisfactory, however too high ratio indicates that the firm is over cautious of cash deficit and as such allocates higher budget than required. Likewise, a ratio lower to 1:1 refers that the company faces cash deficit in its investment and signals serious problems in meeting cash payments.

4.21.1. Analysis of Approved Current Assets Investment Budget

Since, cash management deals with the management of cash in the short-run, a time period of not more than one year, cash budget for fixed assets investment, which is a long-term investment decision doesn't come under the scope of this study. Hence, analyses of fixed assets investment have not been extensively included in the study. Hence, subsequently, approved current assets investment budget and expenses has been analyzed.

Table-31: Analysis of Approved Budget and Expenses: (Rs in million)

Statement	FY (2059/60)		FY(2060/61)		FY(2061/62)		FY (2062/63)		FY(2063/64)	
	Approve.	Expenses	Approve.	Expenses	Approve.	Expenses	Approve	Expenses	Approve	Expenses
	Budget		Budget		Budget		Budget		Budget	
Raw materials	35.00	14.00	41.50	30.14	28.00	4.96	28.00	8.40	26.00	7.57
Packing-materials	15.00	4:1	20.50	13.32	19.99	3.62	19.99	5.72	16.00	5.07
Lab. chemicals	0.025	0.008	0.25	0.003	0.15	0.03	0.15	0.03	0.10	0.02
Other expenses	58.25	25.00	59.99	36.38	51.78	28.86	51.81	36.11	40.11	32.05
Total	108.28	43.11	122.24	79.84	99.92	37.47	99.95	50.27	82.21	44.71
Ratio	2.51		1.53		2.67		1.99		1.84	
Average Ratio	2.11									

The above table clearly indicates that each year the company has been holding excess cash than required for its current assets investment. The figure further shows that the company has never faced any cash deficit in its current assets investment. The ratios of 2.51 in FY 2059/60, 1.53 in the FY 2060/61, 2.67 in the FY 2061/62, 1.99 in the FY 2062/63 & 1.84 in the FY 2063/64 suggest that the company has been over cautious of cash deficit and as such has been holding more than enough cash balance. This is indicative of excess cash balance being held idle. A satisfactory ratio could only be observed in the FY 2060/61 when the ratio is 1.53. Average ratio of 2.11 suggests that the company has not been following definite policy regarding allocation of cash budget.

4.22. Analysis of Primary Information Collected Through Questionnaire

In course of analyzing the data, I have not only analyzed the secondary data. To make my research work more effective and accurate, I have also collect some primary data through the means of questionnaire with the help of company's employee possessing different post i.e., general manager, senior account officer, sales manager, junior account officer.

There were 4 respondents in total who help me for filling up questionnaire because of the belongings of the information I had not consult the lower level employees of the company. On the basis of answers given by them, I made analysis of the answers. For this purpose, I arranged the information in a tabular form. The questionnaire given with options of answers is kept in last at annex.

Table –32 Analysis of Respondent Answers

Q.No.	Number of respondents					
	Option of answers					
	Yes	No	a	b	c	d
1			2	1	1	
2	4					

3			4			
4			3		1	
5					4	
6	4					
7	4					
8			1	1	2	
9	4					
10					3	1
11				4		
12	2	2				
13				3	1	
14		4				
15	4					
16	4					
17	4					
18					1	3
19		4				
20			2	2		

(Source: Details of questionnaires see Annex)

Except some exception, there seems to be homogeneity in answers for the questionnaire numbers: 2, 3, 6, 7, 9, 11, 14, 15, 16, 17, and 19. On these questions most of the respondents' answers matched with each other where as different answers were given in remaining other questionnaire.

According to respondents answers it can be said that the company hold. Cash for transaction motives, precautionary motives and speculative motives. The above table shows that the company also prepared cash allocation /expenses budget annually. Most of the respondents were in

favor of cash allocation /expenses budget (cash budget) and one respondent was in favor of projected balance method.

There were different thought of the respondents for the conditions and circumstances to maintain minimum cash balance, some were in the favour of seasonal fluctuation in sales, some were in the favour of to meet future contingencies and some were in the favour of others. Most of the respondents were in the favour of making any investment of excess cash balance. Some respondents were in favor of assets investment for the business expansion where as some responds are in favour of assets investment in others.

The above table shows that the most of the respondents were in favor of bank borrowing if cash balance fell below its minimum cash balance. Some respondents were in favor of following any specific method for cash collection and some respondents were not in favour of following any specific method for cash collection. Some respondents answered that the major problems of the company was inadequate cash balance while managing the cash and some respondents answered that the major problems of the company was problem of effective utilization of cash. Most of the respondents were in the favour of not using any standard methods or models for determining optimal cash balance.

Most of the respondents were in favor of uniform terms of credit allowed to customer and charging interest on delayed payments as well as offering cash discount to the customers for early payment. There was no advance payment system from customers and out of four, one said that the company could not take advantage of cash discount and three respondents said that the company never takes advantage of cash discount. According to respondents majority, it can be said that the organization was not able to pay its short term liabilities on due dates and this was due to shortage of cash, delayed payment by customers and decline in cash sales. There were different thought of the respondents for improving cash collection

system, some were in the favour of initiate compromise, and some were in the favour of charging higher rate of interest.

Thus, by analyzing this primary information it was found that the result of secondary data analysis and results of primary data analysis matched in various major aspects.

4.23 Major Findings

Summary of major findings was presented in following headings.

4.23.1. Overall Cash Management

(1) NDL did not have any definite policy regarding the amount of cash balance to hold at the end of each fiscal year

- Cash and Bank balances held during the fiscal years under study were observed to be high fluctuated. Dispersion of cash and bank balance of Rs 14.21million and coefficient of variation (CV) of 145.57%. Equation of straight line trend showed that cash balance increased by Rs 15, 20,000 every year. Thus the very fact indicated the company to be lacking definite policy regarding the amount of cash and balance to hold in each FY. Moreover the cash balance held was in increasing trend.

(2) NDL did not make forecast of cash balance taking into consideration the sales volume:

The cash and bank balance did not comply with sales of the firm. Correlation coefficient between cash and bank balance and sales being negative of -0.3134 and P.E. $< |r| < 6$ (P.E). i.e. $0.2299 < 0.3134 < 1.3794$, this implies that, though there exists negative correlation between the two, no conclusion could be derived as to statistically significant/insignificant. Therefore, this correlation analysis indicated that the sales did not make increase cash balance.

(3) NDL failed to collect receivables from its sundry debtors timely

- Proportion of Cash and Bank balance compared to its Account Receivables was not in satisfactory trend, and that Cash and Bank balance did not increase or decrease in the same pattern as Account receivable. It suggests that holding of cash balance has no relation with Account Receivables of the company. Ratio of cash and Bank balance to Account receivable was 17.49% in the F/Y 2059/60 and 273.50% in the FY 2061/62 which indicated the fluctuation was erratic. Correlation between Cash and Bank balance and Account Receivables was negative i.e. -0.2916 which suggested increase in Cash and Bank balance decreases in Account receivable and vice versa.

(4) NDL failed to maintain an adequate proportion of cash in its current Assets

- Proportion of Cash and Bank balance in its current assets was very small and the cash balance held shown positive relation to the amount of current assets of NDL. Average ratio of Cash and Bank to Current Assets was 9.13%, which was very small portion of cash in current assets. Correlation coefficient between the two is 0.6492.

(5) NDL could not meet its cash & bank balance to pay current liabilities payment

- The cash and Bank balance held compared to current liabilities indicated that for some FYs such cash and bank balances held were excessively high and where as for some other FYs such cash and bank balance was extremely low. This is yet another indication of mismanagement of cash. Moreover, cash and bank balance was negatively correlated with current liabilities. The ratio of cash and bank to current liabilities was 51.84% excess in the FY 2061/62. In the FY 2059/60, and 2060/61 the ratios were 2.90%, and 3.32% respectively which indicated that in these FYs, there was shortage of cash to meet its current

liabilities. But in the FYs 2062/63 and 2063/64 the cash & bank balance to current liabilities ratio increased i.e. 6.17% and 5.68% respectively. Correlation coefficient between these two variables was positive i.e. 0.1353 which indicated practically significant. This definitely showed that there exists cash surplus to meet current liabilities payment.

4.23.2. Liquidity Position

Overall, liquidity position of the company was moderately dissatisfactory.

(1) A large portion of NDL's current assets was tied-up in the most less liquid asset; i.e. inventory

- The cross examination of the liquidity position suggested that current assets were tied-up in slow moving and unsaleable inventories. Analysis showed that the average current ratio was found to be dissatisfying and it was 1.41:1. It is lower than the conventionally accepted current ratio of 2:1. The average quick ratio was also found to be dissatisfying and it was 0.67:1. It is lower than the conventionally accepted quick ratio of 1:1. This indicated the possibility of current assets being tied-up in slow moving and unsaleable inventories.

(2) Current assets and Quick assets were not being maintained in accordance with current liabilities

- Current assets were not maintained in the accepted pattern of i.e. increase in current assets with increase in current liabilities and vice-versa. Likewise, neither the quick assets were maintained in the accepted pattern of i.e., increase in quick assets with increase in current liabilities and vice-versa.

(3) Profitability of NDL being in worsening trend, liquidity did not practically increase with increase in profitability and vice-versa

- Average Net profit Margin Ratio i.e. average ratio of Net profit after tax to sales was – 70.76%; Average ratio of Net profit after tax to current assets was -46.12%; and Average ratio of Net profit after tax to Quick assets was – 93.68%. This analysis indicated that profitability position of NDL was worsening in an alarming rate.

4.23.3. Cash Flow Statement

(1) Operating activity of NDL was moderately satisfactory

- Overall, the operating activities of NDL were moderate on account of the fact that there occurred cash inflows as well as outflows from such operating activities in the FYs under study. However, there were high fluctuations observed in such cash inflows and outflows, ranging from the highest outflows of (Rs 5.23) million in the FY 2060/61 and the highest inflow of Rs 58.28 million in the FY 2061/62.

(2) Investing activity of NDL was very poor. Surplus cash and cash equivalent was not invested in short- term investment opportunities

- Investing activities of NDL were the poorest of all three activities involved in cash flow statement. This activity made cash outflows every year ranging from (Rs 0.54) million to (Rs8.58) million in FYs 2059/60 and 2063/64. But in the FY 2061/62 the cash inflow of Rs 3.12 million.

(3) Financing activity of NDL was almost passive, and thus poor

- In the FYs 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 financing activity generated insignificant cash inflow of Rs 27.01, 99.07, 101.43, Rs.101.55 and Rs.123.36 million respectively. Thus, the financing activity of the company was the most passive activity, and hence the company should

increase its financing activity by various financial activities such as; loan borrowings, issue of shares etc.

4.23.4. Cash Budgeting Practice

Overall, cash budgeting practice of NDL was very poor. Nepal Drugs Limited allocated more than required cash budget for its current assets investment. In other words, the allocated budget exceeded actual expenses of the company each fiscal year, which was indicative of excess cash balance being held idle incurring high cost. The ratios of 2.51 in the FY 2059/60, 1.53 in the FY 2060/61, 2.67 in the F/Y 2061/62, 1.99 in the F/Y 2062/63 and 1.84 in the F/y 2063/64 suggested that the company was over cautious of cash deficit and as such has been holding more than enough cash balance. This was indicative of excess cash balance being held idle. Average ratio of 2.11 suggested that the company was not following definite policy regarding allocation and expenses of cash budget.

4.23.5. Issues and Constraints

While analyzing the management of cash in Nepal Drugs Limited. Major issues and constraints noticed are as follows:

1. It was observed that the cash management was least concerned to forecast of cash for the coming period. The cash forecasting was completely lacking in the company. The fluctuating trend of cash deficit revealed the fact clearly.
2. The lack of accurate and proper sales forecast was one of the important constraints that affect the financial performance of the company. If the company forecasts the expected sales accurately, it can manage the various activities accordingly.
3. Restrictive credit policy was one of the important constraints that affected the sales volume of the company. If it adopts liberal credit policy, it can increase the sales volume and the receivable turnover by employing a restrictive credit policy. But however, this is true up to the certain point only because such strategy tends to decrease the sales.

CHAPTER -5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary:

Nepal Drugs limited is a growing concern of greater national importance in the area of pharmaceutical to the public at large. It contributes significantly to the economic development of the country. However, NDL is found to be suffering from inefficient 'cash management'. So, the objectives of this study is to examine and critically analyze the cash management practice of NDL; to examine the liquidity position of NDL, to examine cash flow statement of NDL, to examine cash allocation /expenses budget practice of NDL and to recommend viable suggestions to cope up with cash management shortcomings in NDL. These objectives of this study are to have true insight into its 'cash management'.

Hence, an effort was made in this thesis to present major findings of the study by beginning with finding in 'overall cash management', then proceeding through 'liquidity position' and 'cash flow statement' and finally 'cash allocation/expenses budget practice'. There after, in the same pattern 'recommendations' were stated. Likewise, 'conclusions' were drawn at the end of the chapter.

For the purpose of conducting this study, mainly the secondary data were used. It constituted mostly, the balance sheet and profit and loss account besides; the performance was also supplemented from interview with the related persons of Nepal Drugs Limited.

5.2 Conclusion:

that cash management is an important aspect of the financial decision making variable. Many factors or determinants such as nature of business,

level of sales, credit terms, quality of customers, economic condition etc needed 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, different technique of cash management etc. are needed to be considered.

Conclusively, it can be stated that NDL's cash management was very poor. Negative profitability of the company added much to the worsening financial position of the company. Besides, cash management being one of the important elements in financial function, there are other numerous aspects of finance involved in the overall financial performance of the company. In addition to this, the overall performance of the company counts for other managerial aspects such as; human resource management, organizational structure, markets management etc. However, above all disappointing down-falling trend of the financial position is indicative of the fact that NDL should immediately seek for drastic change in its managerial structure. So far cash management is concerned, the recommendations suggested above could, to a greater extent, uplift NDL's cash situation.

5.3 Recommendation

Nepal Drugs Limited required some suggestions to improve the application of 'cash management' system in NDL for its better operation. The study has clearly shown that NDL's planning was not systematic, there was lack of coordination between departments, and implementation aspect was poor as well. The study recommends the following steps to improve NDL's planning and performance.

1. Efficient management of cash

- Nepal Drugs Limited should have proper cash planning to estimate the cash receipts and payments. It helps to minimize the problem of excess or deficit cash balance. The company should first identify the cash needs for operation. For this, the company should

consider the various expenses it has to incur for purchase of commodities, payment to be made for wages, salaries and rent, power etc. In other words, it should forecast the cash needs for manufacturing expenses, administrative and selling overheads for certain period of time. After identifying the cash needs then the company 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 company should then determine the minimum level of cash balance needed to the company. At the same time, the seasonal requirement should also be considered.

2. To design the effective account receivables management

➤ Account receivable management is one of the basic components of current assets. And management should be given top priority by the top management of the company since major share of company current assets has been occupied by account receivables. Account receivables can be managed efficiently by designing an appropriate receivable management programme. This programme has two main approaches; in the first place 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.

3. 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.

4. Activate investing activities

➤ Cash flow statements have shown that investing activities are not functioning. This fact together with the fact that NDL has been holding excess cash and cash equivalent at the end of years necessitates immediate investments in short-term investments which would earn a return till the funds can be utilized in the firm.

5. Activate financing activities

➤ The study of cash flow statement has also pointed that financing activities of NDL is almost passive, incurring neither cash inflows nor cash outflows. Financing activities has greater impact on the profitability of the company and consequently on liquidity. So, it is recommended to activate its financing activities through long-term borrowings, paying interests and dividends wherever required etc.

6. Maintain optimum cash balance every year

➤ The study has identified that NDL hasn't been maintaining optimum cash balance. The balances held are at times too high and too low and without any definite purpose as to why the firm has held excess or deficit balance. For a good running of a firm , holding of optimum cash balance as per its sales, profit and or other influencing variables is recommended.

7. Prepare cash budget on the basis of cash flow analysis

➤ NDL needs to prepare cash budget based on cash flow analysis. The objective of preparing a cash budget is to forecast whether at any point of time there is likely to be an excess or shortage of cash. Thus, for NDL, it is necessary to highlight the importance of developing appropriate strategies for cash management in respect of:

- (a) 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.
- (b) Optimizing the level of cash balance by matching the cost of holding excess cash and the danger of cash deficiency.
- (c) Managing of cash flows so as to accelerate the inflows and as far as possible to decelerate outflows.
- (d) Investing idle cash balance taking into account the cost of administering investments in marketable securities.