CHAPTER I

1. INTRODUCTION

1.1 Background of the Study

Industry is a key factor in the process of economic development and its importance as a means of achieving economic growth and prosperity has long been recognized in the economic literature industry development as well as the fundamental good of most developing countries.

Industrialization in poverty stricken country like Nepal is an effective means of achieving economic development industry in Nepal is stilling its infancy wit many major areas under public sector management. In this condition, the private sector participation needs to be courage for the industrialization of the country. Industrialization returns would not only population away form agriculture and reduce unemployment and under employment, but would also provide the basic for sustained economic growth. But because policies of the past relied on excessive government intervention tat led to delays in decision making industrial policy and industrial enterprises act 1992 was introduced to enhance private sector participation.

As early as 1953, a development agency named 'Udyog Parishad' was constituted which was responsible for accelerating the development of industrial and commercial activities in the country. Immediately in 1936, the Nepal company act came into force and various small, medium and large scale industries were established in the private sector during the late thirties. In the same year, Biratnagar Jute mills was established with an authorized capital of N Rs 1.6 million and paid up capital NRs 0.8 million as a first joint stock enterprises in the country. So, the history of public limited company began with Biratnagar Jute Mills Ltd.

After the launching of the first year plan in 1956, Industrial policy was formally announced in 1957, which has under gave a series or revision in subsequent years.

During the period of third year plan (1965-70) an industrial promotion and productivity center, a joint project of NIDC and HMG/N was established to act an agency for providing technical assistance and apprising industrial projects suitable for the country. In the beginning of fourth plan (1970-1971) it was felt that the private sector could not set up cut basic and feasible industries capable of making special contribution to the industrial development of the country. Within the period of the plan the new industrial policy 1974 was also announced by HMG/N. In 1981 a new industrial policy was declared and this policy is very liberal respect of registration and other official procedures. The private sector investment as well as foreign investment is invited in almost all areas of industries. During the Eight plan, the foreign investment and one the window policy (1992), foreign investment and technology Transfer Act 1992 and industrial policy and industrial enterprises act 1992 were enacted. Foreign investment and one window policy has created friendly environment for investment, loan investment, technology transfer and management services have been ensured. The ninth plan (1997-2002) has also the objective to encourage the private sector and the foreign investment. In spite of the past efforts of more than four decades for industrialization the contribution of industrial sectors to gross domestic product is below 10 percent. This sector provides employment to more 2 percent of labour force. It clearly indicates the miserable condition of industrialization and entrepreneurship in Nepal.

Nepal is in infancy period of industrialization. Two manufacturing sector is very small. In recent years, the growth rate is relatively more satisfactory. The manufacturing sector has to face numerous problems which have acted as constraints in the growth of manufacturing industries. Mainly such problems are due to landlocked situation of the country, undeveloped situation of physical, human financial and administrative infrastructure and transport, communication networks, manpower and technology, low productivity of inputs etc.

To speed up the process of industrial development, the present government has started several policies and programs. Great emphasis has been given to economic liberalization and privatization. Government has declared that liberal policy will be adopted in the industrial sector and license requirement system will be relayed. The government will pay necessary attention to expand tax activities of the private sector of developing

infrastructure providing the rebates and other facilities. government has adopted the policy of permitting 100 percent foreign investment in large and medium scale industries. Government has already adopted one window policy to facilities the industrial investment. Government has always encouraged private sector in the investment in manufacturing sector.

Clear and simple policies providing definite for a longer period of time are the primary requisites for the industrial development. Stable and liberal policies will also encourage foreign investors. Adoption of such policies will significantly help initiate industrialization as faster rate.

1.1.1 Private Sector Development Policy in Nepal

Even though the history of development of economy in participation with the private sector has been very old in Nepal, since mid 80's the strategy of promoting private sector through diverting the investment of government under structural reform program from those areas, which attract private sectors has been adopted. In this process, private investment was encouraged, even in the banking sector under the government monopoly, especially in the firm of joint venture bank. Investment for private sector was encouraged according to the economic liberalization policy adopted in administrative structure, which have been considered as hindrances in the development of private sector.

Therefore, in order to transform the open and market-oriented economy and its achievements by making them more extended and stable into an accomplishing strategy for poverty alleviation it has become essential to forward additional work of reforming policy, law administrative procedure and infrastructure which have been seen as hindrances in the development and expansion of private sector.

The process of policy, legal and administration reforms executes since the eight plan period with especial importance to private sector in order to create the environment for the flow of private sector investment towards economy has continued even in the ninth plan. Reform program were continued in every private sector attracted areas.

Since, private sector plays an important role in the movement of poverty alleviation by maintaining wide, stable and high economic growth through best mobilization of available resources and means making the economic sector of the country strong, healthy, accelerated competitive and move tied up with external economy, the objective of the Tenth plan would be to develop private sector friendly financial structure.

Strategy of Tenth Plan:

Following strategy will be implemented in the Tenth plan for the development of private sector.

- Emphasis will be given for the maintenance of investors friendly environment through assurance for progressive economic reforms and policy stability.
- The entrance and exit of private investment in those areas will be facilitated by defining the role of private sector in every areas of economy.
- Competitive capacity will be enhanced by providing equal incentives and facilities in all areas of investment.

1.1.2 A Brief Definition of Cash Management

Cash management refers to the proper management of firm's cash position. 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 the 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 management is itself a decision-making areas within the framework of the overall current assets management.

Cash is the life blood of any firm no one can operate business activities without adequate cash. A company remains healthy and strong if manage well. On the other hand, it falls into serious situation if not managed property cash is the liquid and it is very crucial factor for the smooth and effective operation of all kinds of business activities either they are profit seeking or not. Private or public manufacturing or trading etc. from this perspective cash is very important factor for all and parties.

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

1.1.3 A Brief Introduction to Private Enterprises

An organization or institution operated and controlled by private industrialists is known as private enterprises or private sector. This kind of organization is operated by a single individual or a group of individuals and they themselves bear the profit and loss of the company. the main objective of this kind of organization is to earn maximum profit. There are many private enterprises in Nepal. Some of them are Private airline, Himalayan bank, Panchakanya industries, Chaudhary group of industries, Hulas steel industries etc. Most of industries in America, Briatain are found to be private enterprises. In the country having mixed economy, like Nepal and India, the proportion of public and private enterprises is to gain profit. Private sector industries require less capital and less risky compared to public enterprises. Secrecy is fully maintained in private enterprises. in private enterprises, the top level managers are given full autonomy will result in quick performance of work. A person who bears risk will be awarded in private sector.

1.1.4 Introduction to Hulas Steel Industries Pvt. Ltd

Hulas steel industries Pvt. Ltd. established in 1981, is a joint venture company of Golchha organization of Nepal and com craft ltd. Golchha organization is one of the

biggest industrial group of Nepal whose activities encompass practically all facets of industrial sector. Comcraft ltd is a multi-product company operating world wide with financial head quarters in Geneva, Switzerland. It is operating in more than 30 countries with an annual turnover of more than 3 billion US dollars. Hulas steel industries Pvt. Ltd. is occupying eminent position in engineering disciplines. The company encompasses the entire spectrum of design manufacture, fabrication and testing which help to achieve professional excellence technological innovation and use of most advanced techniques. The company is staffed with civil engineers, mechanical engineers, electrical engineers, draftsmen, certified welders, long experienced supervisors, computer specialists, all capable and time tested for field work and work within the factory. They are highly qualified to provide design, manufacture fabrication and testing support for realization of mission. The work is set up at Simra, Nepal for manufacture of water pipes (MS black steel pipes, Galvanized steel pipes, structural steel pipes, black steel casing pipes for bore well and shallow tube wells), hollow section (round, square and rectangular), cold formed sections (angle, plain, channel, doors and windows profiles, sheet and plates), cold drawn Ms wires, steel tubular poles), steel structures for factory buildings). The galvanized steel pipes have obtained Ns mark and are producing pipes to highest standard. The company has diversified in the field of turukey, jobs involving erection. The project term is well equipped for design, fabrication, supply, erection, painting and commissioning of 132 Kv, 33 Kv, 11kv and 0.4 kv power distribution systems, industrial buildings as well as steel girder, suspension/suspended bridges. The factory at Simra is equipped with most modern machinery and has capacity to produce 10000 MT per annum of structure and poles. In addition, the company has galvanizing plant with both dimension of 9 meter length. It can handle 8 meter long members in one immersion at a time.

Quality of the product and services is the prime concern and satisfaction of the customer is the ultimate goal of the company keeping pace with customer's increasing quality demand, the company have established separate quality assurance department in factory that is being headed by a qualified team leader with all necessary equipment and instruments required for quality control of the product. A team comprising

qualified and experienced engineers, draft men, technician and supervisors works under the leadership and direct guidance of executive chairman of the company.

At Hulas steel industries Pvt. Ltd, accent is on rigid quality control. All the products manufactured are tested from raw materials to finished products. Various tests carried are in line with Ns, Is, JIS, Bs etc. The company is well equipped with latest testing machines.

The roofing sheet division and the structure and pole division of the company have been certified to conform to the quality management system standard ISO 9001:2000.

The division of the company is to look forward and enhance the skill and quality adopting the latest technology and method achieved in steel structure fabrication field. To achieve this goal, the company believe in developing the skill of the workers, improving the quality management system, offering the product in possible low cost to benefit the clients through minimizing the production cost, reducing the overhead and economizing the production time.

The main aims and objectives of Hulas steel industries Pvt. Ltd. have been put as follows:

- To product the quality of product and provide the quality service is the prime objective of the company.
- To look forward and enhance the skill and quality adopting the latest technology and method achieved in steel structure fabrication field.
- To offer the product is possible low cost to benefit the clients through minimizing the production cost, reducing the overhead and economizing the production time.

The main department that Hulas steel industries holds:

The company comprises of following department/sections

a) Administration and Human Resource Department

b) Finance Department

c) Marketing Department

d) Procurement Department

e) Project Design and Development

f) Quality Assurance Department

g) Store Management and Inventory Control

h) Production Department

i) Painting Section

j) Galvanizing Plant

k) Project Management

l) Fustallation Division

m) Coastage Management Section

n) Repair and Maintanance Section

o) Account Department

Popularity of Hulas Steel Industries

The product of Hulas steel industries Pvt. Ltd is consistently gaining popularity which shows by the consistent increase in sales volume. Almost all product of the company are also popular that they have been used by most of the industries, factories, construction as well as repair and maintenance of different kinds of bridge. Various factors have contributed to the growing popularity; the most important is of course, the confidence that has been shown by a team of highly trained, experienced and dedicated technicians composed of qualified engineers, draftmen, certified welders,

long experienced supervisors. The underlying truth in the confidence is "Hulas Steel Industries Pvt. Ltd. manufactures saffe, efficacious and quality products under Ns. Is. Jis, Zs stands and markets them at reasonable fair prices"

1.2 Statement of the Problems

The manufacturing industries have their own kind of problems. There is a large variance in productivity between the private manufacturing firms within the country productivity increase with increase in firms size. Large firms with more than 500 employees have 25 percent greater efficiency than small firms with below 50 employees. Important determinants of productivity of private manufacturing enterprises are capacity utilization, economies of scale; infrastructure and learning mechanisms. firms located in Kathmandu were generally growing faster than firms from other regions of the country. Younger firms were growing faster than order firms. However, the system of keeping cash management is one of the common problems of most of the private manufacturing industries in Nepal, sometimes faces the problem of maintaining cash management system. With their problem in mind, this study made an effort to pinpoint their problem and recommended possible suggestion and solution to them. Therefore the present research highlighted the role of cash management to improve the financial performance of manufacturing companies with special reference to Hulas Steel industries Pvt Ltd.

1.3 Objective of the Study

The present study has been conducted to examine cash management of private manufacturing enterprises of Nepal, on the basis of the case study of Hulas Steel Industries Pvt. Ltd, one of the successful private manufacturing industries of Nepal. The specific objectives of the study are as follows:

- To examine and critically analyze the cash management practices in Hulas Steel Pvt. Ltd.
- To examine the liquidity position of Hulas Steel Inudstries Pvt. Ltd.

- To examine the cash flow statement of Hulas Steel Industries Pvt. Ltd.
- To analysis the allocation and expenditure of cash of Hulas Steel Industries Pvt. Ltd.

1.4 Scope and Limitation of the Study

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

- The study assumes that the import of political factors of the country such as change in government, any sort of political involvement in the firm, if prevalent, has insignificant of no effect upon the financial decisions. Unavailability of secondary data is the other limitation, which could limit the scope of the study.
- Hulas Steel Industries Pvt. ltd has been chosen as sample from among various manufacturing private enterprises. Hence, the findings couldn't be extensively generalized to all the existing private enterprises of the country.
- Statistical tools and financial ratio analysis will only been used to analysis quantitatively.

1.5 Organization of the Study

The study has been organized into five chapters, each devoted to some aspect of the study on "cash management" of Hulas Steel Industries Pvt. Ltd.

I. Introduction

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 private enterprises in Nepal, role and objectives of private enterprises in Nepalese economy, then proceeding through an updated information of existing Nepalese steel enterprises and introduction to Hulas Steel

Industries Pvt. Ltd. Likewise, the statement of the problem, objectives of the study comes next followed by scope and limitation of study.

II. Review of literature

This chapter includes the review of relevant previous writing and studies to find the existing ga Review of text books, dissertations/ Thesis has been included.

III. Research Methodology

In this chapter, the method employed to gather data and the tools used in its interpretation ahs been described under the heading: research design the population and sample, nature and source of data and financial and statistical tools for analysis of data.

IV. Data Presentation and Analysis

The chapter is one of the most important and core of the thesis. Since it consists of systematic presentation and analysis of financial statement employing financial and statistical tools.

V. Summary of Major Findings, Conclusion and Recommendations

This chapter is also important part of study where major findings has been summarized, viable recommendations suggested and conclusion drawn.

CHAPTER II

2. REVIEW OF LITERATURE

2.1 Conceptual Framework

Review of literature is an essential part of all studies. It is a way to discover what other research. It is also a way to avoid investing problems that have already been definitely answered. It refers to the reviewing of the past studies in the concerned field such studies could be thesis that are written earlier, books articles and or any sort of other publications concerning the subject matter, which were written prior by a person or an organization. The purpose of literature review is, thus, to find out what research studies have been conducted in one's chosen of study, and what remains to be done.

2.1.1 Meaning of Cash Management

Cash is the most important current assets for the operation of the business 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. Sometimes near cash items, such as marketable securities is also included in cash. Managing cash flows is an extremely important task for financial managers, because the primary goals of a financial manager is to maximize firm's value and is based on cash follows should have on had at any time to ensure normal business operations continue 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, which 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.

2.1.2 Functions of the Cash Management

There are various functions of cash management, they are as follows.

a) To cash planning: cash flow (inflows and outflows) should be planned to project cash surplus or deficits for the period. Cash budget is prepared for this purpose.

b) To maintain cash and marketable securities in amounts close to optimal level. The firm should try to maintain the appropriate level of cash balance. The cost of excess cash and the danger of cash deficiency should be matched to maintain the optimal level of cash balances.

c) To design and managing cash flows: The cash flows (inflows and out flows) should be properly managed. The inflows of cash should be decelerated as possible.

d) To place the cash and marketable securities in the proper institutions and in the proper forms the idle cash or precautionary cash balances should be properly invested to earn profits. The firm should take the appropriate decision about the division of such cash balances between bank deposits and marketable securities.

2.1.3 Objectives of Cash Management

The basic objectives of cash management are two fold. i. meeting payment schedule and ii. Minimizing funds committed to cash balances. These are conflicting and mutually contradictory and the task of cash management is to reconcile them.

a) Meeting Payment Schedule

In the normal course of business, firms have to make payment of cash on a continuous and regular basis to suppliers of goods, employees and so on. At the same time, there is a constant inflow of cash through collations from debtors. To meet the payment schedules, a firm should maintain an adequate amount of cash

balance. the advantages of maintaining adequate cash balance are I. The relationship with the bank is not strained; ii. It prevents insolvency or bankruptcy arising out of the inability of a firm to meet its obligations; iii. It helps in fostering good relations with trade creditors and suppliers of raw-material, as prompt payment many help their own cash management, iv. a cash discount can be availed of if payment is made within the due date. v. It lend to a strange credit rating which enables the firm to purchase goods on favorable terms and to maintain its line of credit with banks and other sources of credit; vi. To take advantage of favorable business opportunities that may be available periodically and vii. Finally, the firm can meet unanticipated cash expenditure with minimum of strain during emergencies, such as; strikes, fires, or 4 new marketing campaign by competitors.

b) Minimizing Funds Committed to Cash Balance

The second objective of cash management is to minimize cash balance. In minimizing the cash balances, two conflicting aspects have to be reconciled. A high level of cash balances will as shown above ensure prompt payment together with out the advantages. But it also implies that large funds will remain idle, as cash is a non-earning asset and the firm will have to forego profits. A low level of cash balances, on the other hand may mean failure to meet the payment schedule. The aim of cash management, therefore, should be have an optimal amount of cash balances.

2.1.4 Efficiency of Cash Management

Cash use a number of functions as it makes payment possible. It serves to meet emergencies. But if cash is kept idle it contributes directly nothing to the earning of the corporation. As such corporation must adopt such a policy that optimum cash management possible. The financial manager of the corporation should try to minimizing the corporations holding of cash wide. Still maintaining enough to ensure payment of obligation for improving the efficiency of cash management, effective method of collection and disbursement should be adopted. Some methods for efficiency of cash management are briefly described below.

a) Speedy Cash Collections

A firm can conserve cash and reduce its requirement for balance if it can speed-up its cash collection. Reducing the lag for gap between the times a customer pays his bill can accelerate cash collection and the time the cheques is collected and funds become available for use. Within this time gap, the delay is caused by the mailing time. The amounts of cheques sent by customers but not yet collected are called deposit float. The greater the deposit floats, the longer the time taken in converting cheques into usable funds.

b) Concentration Banking

Concentration banking is a system of operating through number of collection centers, instead of a single collection center centralized at the firm head office. To this system, the firm will have a large number of bank accounts operated in the area the firm its branches. All branches may not have the collection centers. The collection centers will be required to collect cheques. From customers and deposit them in their local bank accounts. The collection center will transfer funds above some pre-determined minimum to a control generally at the firm's head office, each day. A connection bank is one where thefirm has a majorbank account ussually the disbursement.

c) Slowing Disbursement

A part from speedy collection of account receivable the operation cash requirement can be reduced by slow disbursement of account payable. It ma be recalled that a basis strategy of cash management is to delay payment as long as possible without importing the credit rafing of the firm. In fact, slow disbursement represents a source of funds requiring no interest payments. There are some techniques to delay payment i. avoidance of early payment, centralized, disbursement, floats and accruable.

d) Using Float

Float is the difference between the balance shown in a firm (or individuals check book and the balance on the bank's records. Firm's not float is function of its ability to speed up and to slow down collections and checks written (disbursement float).

e) Transferring Funds

A transferring fund is a system for moving funds among accounts at different banks. There are two principle method wire transfer cheques with an electronic depository transfer, funds are immediately transferred from one bank to another when an electronic depository transfer cheque (EDTC) arrangement in the movement of funds an electronic cheques image is processed through an automatic clearing house. The fund becomes available on business day later. For small transfer, a wire transfer may be too costly.

f) Overdraft System

A system where by depositors may write cheques in excess of their balances with their banks automatically extend loans to cover the shortage. most of the foreign countries use overdraft system.

2.1.5 Different techniques of Cash Management

i. Cash Budget

Cash budget shows the firm's projected cash inflows and outflows overcome specified period. It is the most significant device to plan for and control cash receipt and payment. It is the most important tools for managing cash. It is useful in determining when cash surpluses or shortages will occur plans can then be made to borrow to over shortages or to invest surpluses.

b) Cash Planning

Cash planning can help anticipate future cash flows and needs of the firms and reduces the possibility of idle 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 firms. Cash planning may be done on daily, weekly or monthly basis. It depends upon the size of the firm and philosophy of management.

c) Long-Term Cash Forecasting

Long-term cash forecasting are prepared to given an idle of the company's financial requirement of distant future. Once a company has developed long term cash forecast, it can be used to evaluate the impact of say new product development on the firm financials condition three five or more years in future. 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 helps to improve corporate planning. Long term cash forecasting not only reflects more accuracy the impact of any recent acquisitions but also fore shadows financing problems, these new additional may past for the company.

d) Short-term cash Forecasting

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

i. Receipt and Disbursement Forecasting

The prime aim of receipt and disbursement forecasts is to summarize these follows during a predetermined period. In case of those companies where cash items of income and expenses involve flow of cash; this method is favoured to keep a close control over cash.

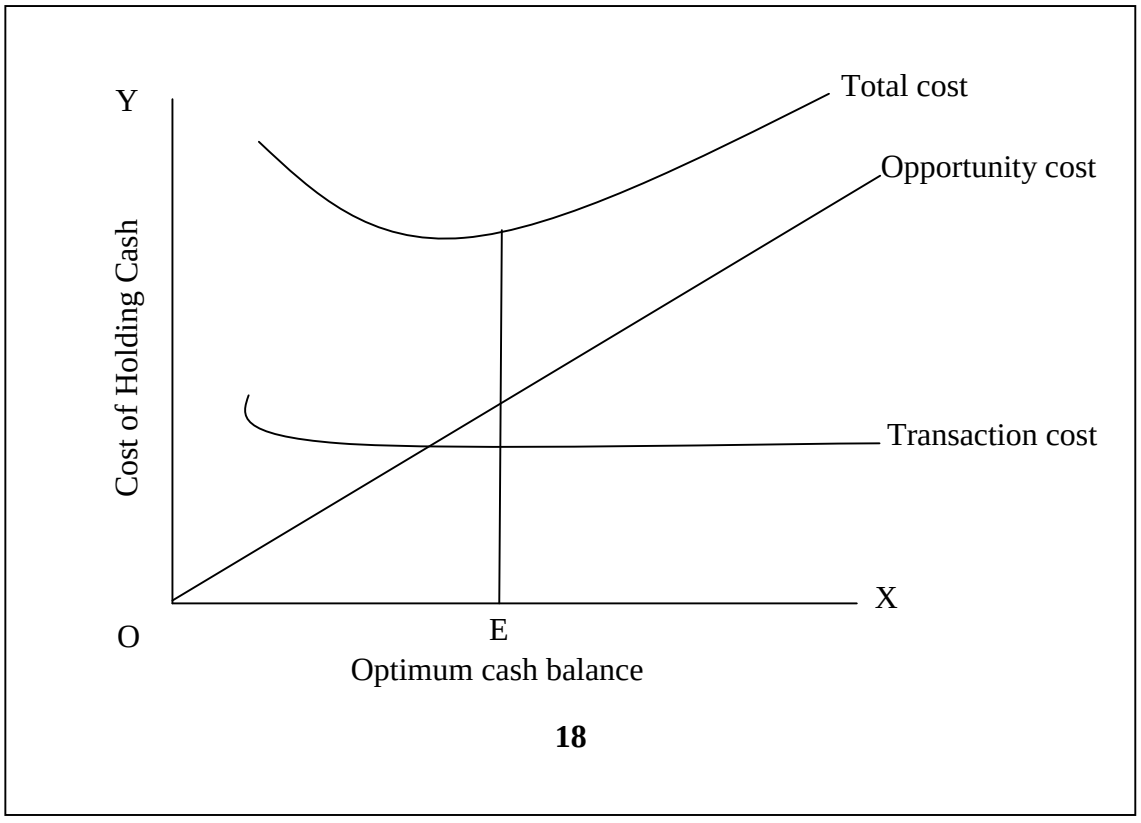
ii. Adjusted Net Income Method

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, how much given will either borrow or rise in the capital market.

2.1.6 Determining the Optimum cash Balance

Financial manager responsibilities are to maintain a sound liquidity position of the firm, so that may be settled in time, the firm need cash not only to purchase raw materials and pay ways but also for payment of dividend, interest, taxes and countless other purpose. The test of liquidity is really that availability of cash to meet of 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 suffer 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 fore go 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.

Fig. 2.1: Determination of Optimum Cash Balance



2.1.6.1 Optimum Cash balance under certainty, Baumohl'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 can immediate 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,

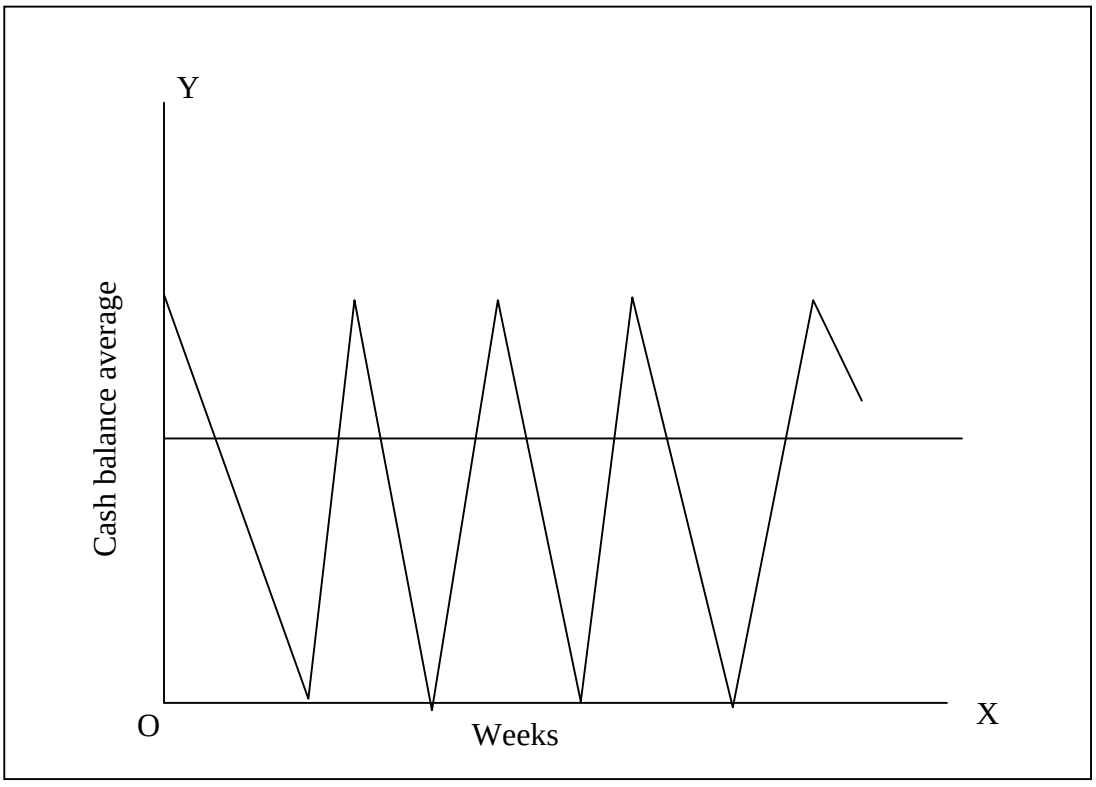
a) The cash is used at a constant rate.

b) The periodic cash requirements is more or less and

c) There are some costs such as opportunity costs that increase other costs such as transaction costs that decrease as cash balance increase 12.

Because of the assumption i) and ii) the graphical representation of cash position looks likes as follows:

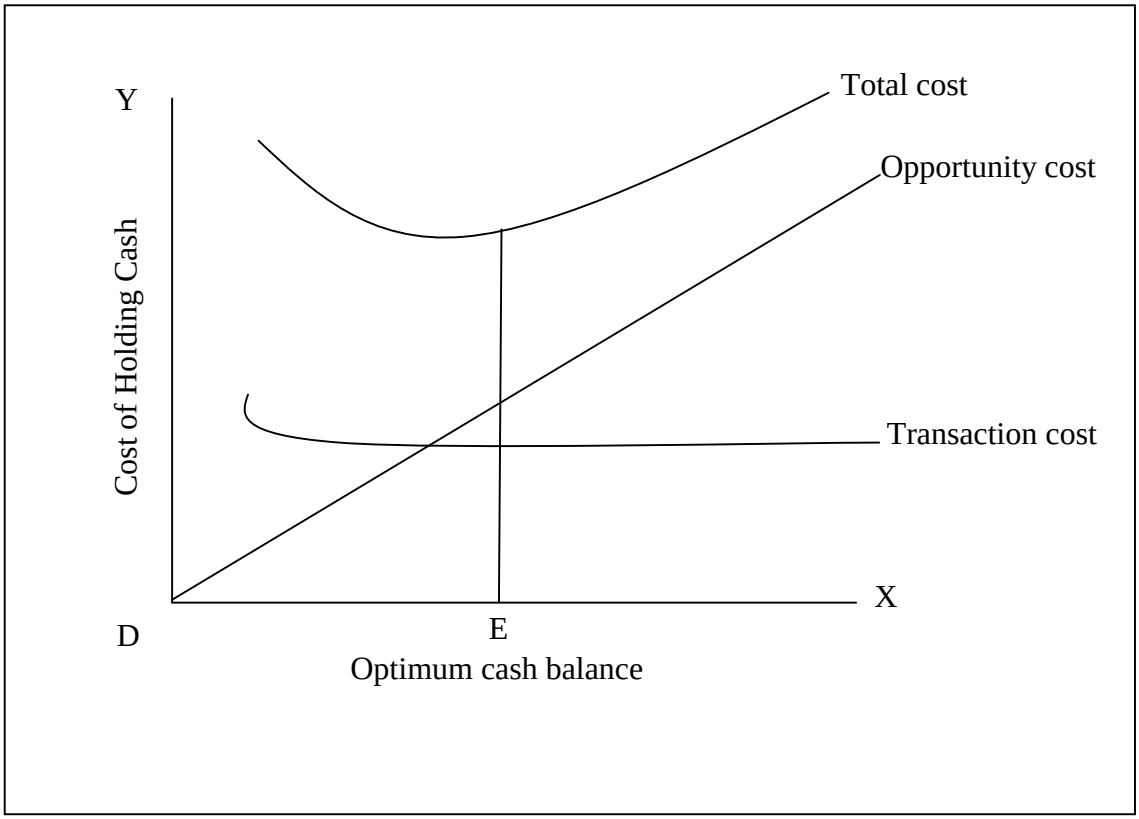
Fig. 2.2: Baumol's Model for Cash Balance



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.

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

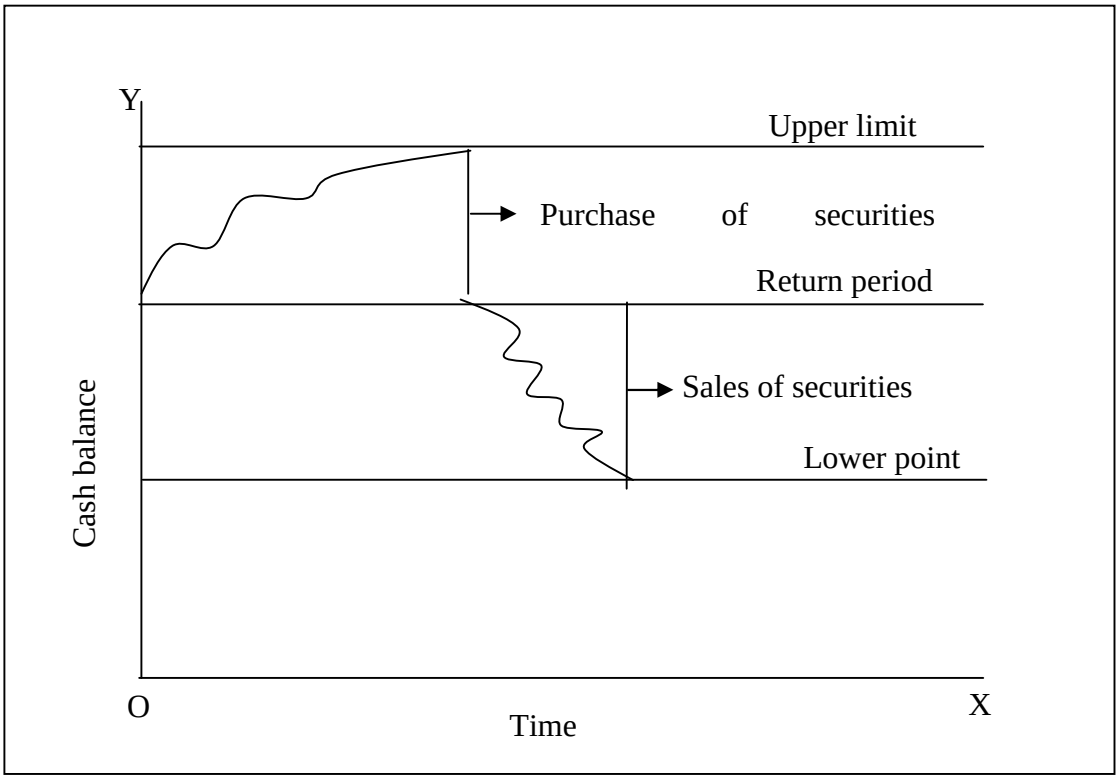
Fig. 2.3: Relationship between Average Cash Balance and Cash Maintain



2.1.6.2 Optimum Cash Balance under Uncertainty, The Millerorr Model:

This limitation of the Baumol model is that it does not allow the cash follows to fluctuate. Firms in practice do not use their cash balance uniformaly nor are they able to predict daily cash inflows and outflows. The Miller-orr model cash flows 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 cash flows fluctuate randomly and 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)[13].



2.1.7 Motives of Holding Cash

The firms holds cash for various motives, they are.,

a) Transaction Motives

The principle motive for holding cash is to conduct day to day operatious. A cash balance associated with routine payments and collectious. Like payments of purchase, labour, taxes and dividends etc. Likewise, in the course of daily business transactious, cash and generated from sales of goods or services, return on outside investments etc.

b) Precautionary Motives

Cash held in reserve for random, unforeseen seen fluctuation in cash inflow and outflow. For example, flood, strike, inefficiency in collection of debtors, cancellation of order failure of important customers, sharp increase in cost of raw-materials etc.

c) Speculative Motives

A cash balance that is held to enable the firm to purchase that might arise. For example, purchasing raw materials at a reduced price as payment of immediate cash falls in price of shares and securities, purchasing at favourable price.

d) Compensating Balance/Compensative Motives

A cash balance that a firm must maintain with a bank to compensate the bank to compensate the bank service rendered or for grating a loan. Firm often maintains bank balance in excess of transactions need as a means of compensation for the various services. These balance are called compensating balance. Bank provides various services to the firm like, payment of check information of credit, loan etc.

Out of four motives for holding cash, the most important ones are the transaction motives and the compensation motive. This is because precautionary balance can be met by short term borrowings and business firms normally do not. Speculate and thus does not require speculative valances.

2.2 Introduction and Purpose

One of the major responsibilities of management is to plan, control and safe-guard the resources of the enterprises. Two kind of resources flow through many business-cash and non cash assets. This chapter focuses on the cash planning and control of the cash inflows (i.e. cash received) and cash out flows (payment of cash). The planning and controlling of the cash inflows, cash outflows and the related financing is important in all enterprises. The cash budgeting is an effective way to plan and control of the cash flows and effectively use excess cash.

"A primary objective is to plan the liquidity position of the company as a basis for determining future borrowings and future investments, For example excess cash is not invested incurs an opportunity cost that is loss of the interest. That could be earned and the excess cash. The timing of cash flows can be controlled in many ways by management, such as increasing the effectiveness of credit and collection activities. Making payment by time draft rather than by chequed, making payment and the last day of discount periods batching payments ,and giving discount on cash sale. Cash management is important in enterprises, whether large or small. Many lending agencies require cash flows projections before granting loan."

The focus of cash planning, time horizons in cash planning and central approach used to develop a cash budget, financial accounting approach to compute cash flows, central of the position, technique for improving cash flows. Planning and controlling cash in a non-manufacturing company.

2.2.1 Review of Books

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

a) The well know professor Weston and Brigham have give some theoretical insight in to the cash management after their various research on it. The bond conceptual findings of their studies provides sound knowledge and guidance for the future studies in the field of management. Cash management is any enterprise and naturally to this study as well. They explain the beginning the motives for holding cash specific advantage of adequate cash, synchoronization of cash flows, expanding collection and cheques, clearing, using float cost of cash determining the minimum cash balance compensating balance overdraft system cash management, management of account receivable credit policy, evaluating changes in credit policy is (Western, et al. 1986; 359-396).

b) Book entitled financial management written by M.Y Khan and K. Jain has thrown enough light on cash management topic. Cash management is one of the key areas of working capital management. A part from the fact that it is the

most liquid current assets, cash is the common denomination to which all current assets can be reduced because the other major liquid asses i.e. receivable and inventory get eventually converted in the cash. This underlines the significance of cash managements. While cash situation is unique, the one common thread that runs through all corporation in crisis is a lack of liquidity (Jdry and Roger, 1976: 28).

c) Cash management, techniques and components are also described in Van-Hore book in the cash management chapter. Functions included in cash management are management collections, lock box system and other procedures, control of cash disbursements pay roll and dividend disbursements, zero balance account, electronic fund transfer, balancing cash and marketable securities. Componenstating balance and fees models for determining optimal cash are investor model and stochastic model (Van Horne, 1999: 343-360).

d) For the cash management, a well-know Indian professors I.M Pandey has described some conceptual ingredients, which are based on his various research studies. We can learn lesson from it and helpful for this study indeed. He has described various except 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.

2.2.2 Review of Previous Research

In this section the review of thesis relating to cash management have been considered. There were only few thesis/dissertation written on cash management when browsed through computer records of thesis reports presented earlier in Tribhuvan University central library.

Pradhan (1997) entitled "A study of cash management of Salt Trading Corporation Ltd" as partial fulfilment of the requirements for the degree of master's of business administration. He has done his research work with considering following objectives.

- To study the existing cash management system of STLC.
- To access the credit policy adopted by STLC.
- To explain few suggestion on the basis of above analysis to improve the cash management for future.

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

- Salt trading corporation ltd could not make the best use of available cash balance prudently.
- The cash collection efficiency in this corporation is very low.
- The collection of trade credit in the corporation is low during the three years of the study period.
- 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.
- No optimum cash balance is maintained.

Yogi (2000) conducted a study on "A Working Capital Management of Uniliver Nepal Limited (ULN Ltd)" with the objective of:

- Analyze the liquidity, composition of working capital, assets utilization and profitability position.
- Analyze the optimal level of working capital
- Analyze the financing position and profitability position.
- Examine the relationship between liquidity and profitability position.

The major findings of this study are:

- The liquidity position of the company is fluctuating position of the company is fluctuation year by year.

- The proportion of current assets is affected by the sales. In other words the sales affected the management of current assets.

- The composition of current assets and current liabilities are fluctuating in nature.

- Thapa (2006), in his study on "Working Capital Policy of Manufacturing Public Enterprises". The objectives of this study are:

- To sort out the problem of low economic performance and poor financial management in manufacturing public enterprises and

- Al so the lack of appropriate assts mix paid in manufacturing pebbling enterprises.

- Major findings of this study are:

- Almost all selected manufacturing enterprises had sufficient liquidity.

- The selected manufacturing enterprises had sufficient liquidity.

- There are improvement in the use of current assets in selected manufacturing public enterprises there was high turnover of cash and receivable in compression to inventory.

Dhakal (2007) in his study on "Cash Management of Nepalese Joint Venture Banks in Nepal" had the following objectives:

- To critically review cash management techniques practice by Nepalese joint venture banks.

- to examine the demand for cash in the case of Nepalese joint venture banks.

- To present overall cash management picture of selected joint venture banks in Nepal.
- To analyze the cash flow structure.

Major findings of his study are:

- The growth trend of cash hiding shows variation among selected commercial banks.
- Almost all the commercial banks have negative growth for some years. though many of them had very high positive growth for some years. This shows that the level of cash balance is changing during the study period.
- There is no any fixed growth trend for any listed banks.

Subedi (2009) in the study on "Cash Management of Selected Nepalese Manufacturing Companies" had the following objecitves:

- To analysis the cash position of companies.
- To determine receivable and inventory conversion periods and payable deferral periods to net cash conversion cycle.
- To compare profit, cash position and other financial variables.
- To provide suggestion for concerned parties based on basic findings.

- Major finding of his study are:

- Sample manufacturing companies failed to maintain the sound cash position.
- Cash management practices in Nepalese manufacturing companies contribute very weakly towards their stock prices.
- Cash balance cannot explain the position of net profit of sample organization. However relationship of cash balance and profits is positive. It leads to

conclude that there is no significant relationship between net profit and cash balance of the Nepalese manufacturing companies under studied.

- There is strong role of total assets, cost of goods sold and total capital employed as cash balance of only one company i.e. AVU among other companies under studies. However, these variables play insignificant role to determine the cash balance of other organizations under studied. It leads to conclude that total assets, cost of goods and capital employed have no significant bearing on cash balance of these organizations.

CHAPTER III

3. RESEARCH METHODOLOGY

In the preceding chapter, we have overviewed briefly on cash management concept, review of books, thesis, and government publication. The basis purpose of this chapter is to enlighten the research design, nature and sources of data, population and sample, collection procedures and method of analysis of data in brief.

3.1 Research Design

A well settled research design is necessary to fulfill the objective of the study. It means definite procedures and techniques that guides to study and propounds way for research viability. This study is the case study of Hulas Steel Industries Pvt. Ltd. Due of the successful private manufacturing steel industries of Nepal. Past financial data of last five fiscal years of the company have been the basis of this study. The balance -sheets, profit and loss account statements of proposed and approved budget with expenses for last five fiscal years have been compared to analyse the cash management of the company.

3.2 Collection Procedures

- Population and Sample
- Nature and Sources of Data

The data collected are secondary. Financial statement such a: balance sheet, profit and loss account, statements of proposed and appeared budget with expenses are the data collected for analysis. The company has computerized records of financial statements old data dating prior to five years were placed in a separate now in filling cabinets. These and other related data were gathered directly from authorized staff at office of Hulas Steel Industries Pvt Ltd. Thindhara Sadak, Kamaladi, Kathmandu.

3.3 Financial and Statistical Tools for Analysis of Data

3.3.1 Financial Tools for Analysis of Data

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

Financial Ratio Analysis

Financial ratio analysis is designed to determine the relative strength and weakness of business operations. It also provides a framework for financial planning and control. Financial manager's need the information provided by analysis both to evaluate the firm's past performance and to map future plans. Financial analysis concentrates of 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, how these relationship changes over time and how a particular firm compares with other firms in its industry. Although financial analysis has limitation, when used with care and judgement, it can provide some very useful insights in to the operation of a company.

a) Analysis of Cash Turnover

The cash turn over ratio explain how quickly the cash is reached form the sales. In other words, it measures the speed with which cash more through an enterprise operation.

The cash turnover ratio is obtained by the following formula:

$$\text{Cash Turnover Ratio} = \frac{\text{Sales}}{\text{Cash in hand and bank}}$$

b) Analysis of 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 indication of poor cash management indicating poor credit management. The standard current ratio is 2:1 any company should maintain this ratio above 1:1, since ratio lower than this definitely indicates poor liquidity position.

This ratio obtained by following formula.

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

c)Analysis of Quick Ratio

This ratio is also known as 'acid test ratio'. This ratio also examine 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 for current assets and dividing the remainder by current liabilities. Inventories 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 s considered satisfactory as a firm can easily meet all current liabilities.

This ratio is obtained by following formula:

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

d) Receivable Turnover Ratio

Receivable turnover ratio gives an idea as to how quickly receivable are converted into sales.

This ratio is obtained by following formula:

$$\text{Receivable Turnover in Time} = \frac{\text{Total Sales}}{\text{Re ceivable}}$$

With computation of this ratio, average collection period of receivable 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 consequences as the sales transaction is only targeted to parties making payments promptly.

$$\text{Average Collection Period} = (\text{ACP}) = \frac{\text{Days in a year}}{\text{Re ceivable turnover in time}}$$

e) Inventory Turnover Ratio

Inventory turnover ratio gives idea on how quickly the least liquid current asset. i.e. 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 favourable which shows that firms 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 in relation with account receivable of the firm. Higher ratio refers to sound liquidity position and vice-versa. However, two high ratio 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:

$$\text{Cash and Bank Balance to Account receivable} = \frac{\text{Cash and bank}}{\text{Account receivalbe}}$$

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 ration implies sound liquidity position and vice-versa.

This ratio is obtained by 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 currents liabilities. Moderately higher ratio indicates good liquidity. Too high and too liquid ratios are unfavourable for the firm. Since, too high indicates excess cash balance held idle and too low ratio means the firm unable to meet current liabilities.

The ratio is obtained by following formulae:

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

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,

$$\text{Net profit margin ratio} = \frac{\text{Net profit after tax}}{\text{saler}}$$

j) Return on Working Capital Ratio

This ratio is also examining profitability of a firm. This ratio is aimed at analyzing the proportion of current assets employed to earn the profit amount. Higher ratio is favourable 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 examine 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:

$$\text{Net profit after tax to Quick Assets} = \frac{\text{Net profit after tax}}{\text{Quick assets}}$$

3.3.2 Statistical Tools for Analysis of Data

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 dispersious such as, range, quartile, deviation, mean deviation, standard deviation and variance are the most popular method.

$$\text{S.D} = \sqrt{\frac{1}{N}\phi\,(X\ Z\overline{X})^2}$$

Where,

N = Number of observation / time periods

$\overline{X}$ = Expected return of the historical data.

In conjuction with standard deviation, coefficient of variation (cv) is also computed which is the relative measures based an standard deviation. 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.

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

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:

$$Y = a + bx \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

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 y

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

$$\Sigma Y = na + b \Sigma x \quad \text{..... (ii)}$$

$$\text{and } \Sigma XY = a\Sigma x + b\Sigma x^2 \quad \text{..... (iii)}$$

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

The values of a and b obtained by solving (ii) and (iii), are substituted in equation (i) given 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 $\Sigma X = 0$

Then the above two equations change to

$$\Sigma Y = na$$

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

$$\text{and } \Sigma XY = b\Sigma X^2$$

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

c) Kal 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. If is to be noted that a high

degree of correlation between two variable doesn't always necessarily imply that changes in one variation cause changes in the order.

Out of several methods of calculating correlation, Karl pearoson'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

$$r = \frac{\phi \Uparrow v}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$$

Where, r = Karl Pearson's coefficient of correlation between X and Y

$\mu = X - \overline{X}$

$V = Y - \overline{Y}$

$\overline{X} = \frac{\phi X}{N}, \quad \overline{Y} X \frac{\phi Y}{N}$

Where,

N = Numbers of years

Interpretation of correlation coefficient (r)

a. The value of 'r' lies between +1.00 to -1.00.

b. When r= +1, there is positively perfect correlation between the two variables.

c. When r= -1, there is negatively perfect correlation between the two variables.

d. When r=0, the variables are uncorrelated i.e, increase or decrease in the variable results no impact on another variable and vice-versa.

Together with Karl Pearson's coefficient of correlation probable error (E) of the correlation coefficient is also computed. E is the measure of testing the reliability of the calculated value of "r".

It is given by,

$$E .= 0.6745 \frac{1 Z r^2}{\sqrt{n}}$$

Where,

E. =Probable error of correlation coefficient.

N = Number of pair of observation

r = Correlation coefficient.

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

It r<E, it is insignificant, so perhaps there is no evidence of correlation.

It r> 6E, It is significant.

But when E<r<6(E), the value of 'r' is inconclusive as to statistically significant/ insignificant correlation.

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

r + E (upper unit) and

r - E (lower unit) respectively.

But when 'r' is of negative value, i.e. -1.w |™r<0, in order to compare 'r' with 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, of 'r' is calculated as r = -0.5 then (r) = 0.5

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

d) Regression Analysis

Regression is the statistical two 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 is called dependent variable and the known variable is called independent variable note worthy 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 an Y variable is given by.

$$X - \overline{X} = r\frac{\exists_x}{\exists_y}(y\ Z\overline{y})$$

Where,

$\overline{X}$ = mean of X variable

$\overline{Y}$ = mean of Y variable

$\exists_x$ = standard deviation of x variable

$\exists_y$ = 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:

$$Y - \overline{Y} = r\frac{\exists X}{\exists Y}(X\ Z\overline{X})$$

CHAPTER IV

4. DATA PRESENTATION AND ANALYSIS

The basic objectives of this study as stated in chapter one is to have true insight into "cash management" of Hulas steal industries Pvt. Ltd. For accomplishment of these objectives. A definite course of research methodology has been followed which is described in chapter third. Now in this study the effort has been made to assess and analysis the cash management to disclose the actual position of cash management in Hulas steel industries.

4.1 Analysis of Secondary Data by "Financial Tools"

4.1.1 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 Hulas steel industries. 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 Hulas steel industries during the period under study. The cash and bank balance of each fiscal year and end has been compared to preceding **years** to analyze fluctuations.

Table 4.1: Analysis of Cash and Bank Balance

(Rs in million)

Fiscal Year	Cash and bank (Rs)	increase/ (decrease) %
2061-62	11.45	-
2062-63	9.71	(15.20%)
2063-64	7.57	(22.64%)
2064-65	6.67	(12.68%)
2065-66	14.31	(116.49%)
Note- Figure	within brackets ( )	indicates negative amount

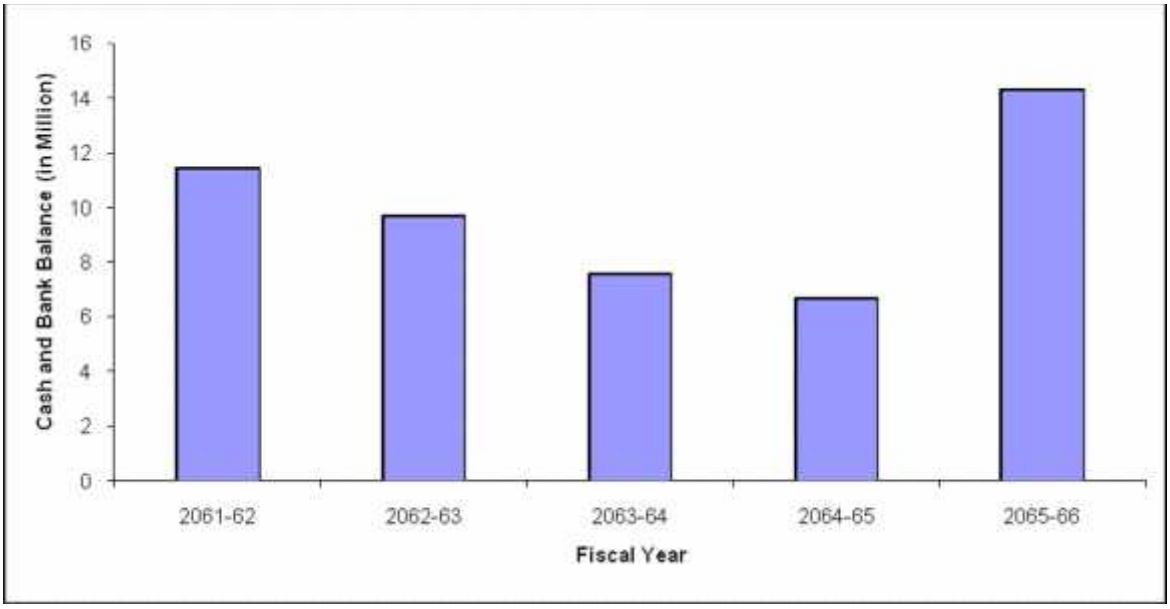
Source: Annual Report of HSIPD.

In Fiscal year 2061-62 the cash balance of the company was Rs 11.45 million, which is decreased by 15.20% to Rs 9.71 million, in the following year. Like wise, it declined in the fiscal year 2063-64 and 2064-2065. However, it sharply increased by 116.49% in fiscal year 2065-66.

However, sharpest, deviation in increments of cash balance occurred in fiscal year 2065-66 when the company held cash balance of Rs. 14.31 million compared to Rs. 6.61 million only in the previous year. It indicated an increment by 116.49% an erratic fluctuation. Afterwards, the figure declined in the three fiscal years by (15.20%) (22.04%) and (12.68%) respectively. Sharpest deviation in decrement being observed in the fiscal year 2063-64. The figure suggested that the cash balance held is very erratic in nature ranging from the lowest Rs 6.61 million in fiscal year 2064-65 to the highest of Rs 14.31 million in fiscal year 2066-67. The figures thus observed shows that the company has not been following a definite police regarding the amount of cash to hold 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 years.

Fig. 4.1: Cash and Bank Balance



4.1.2 Analysis of Cash Turnover Ratio

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

Table 4.2: Analysis of Cash Turnover Ratio

(Rs in Million)

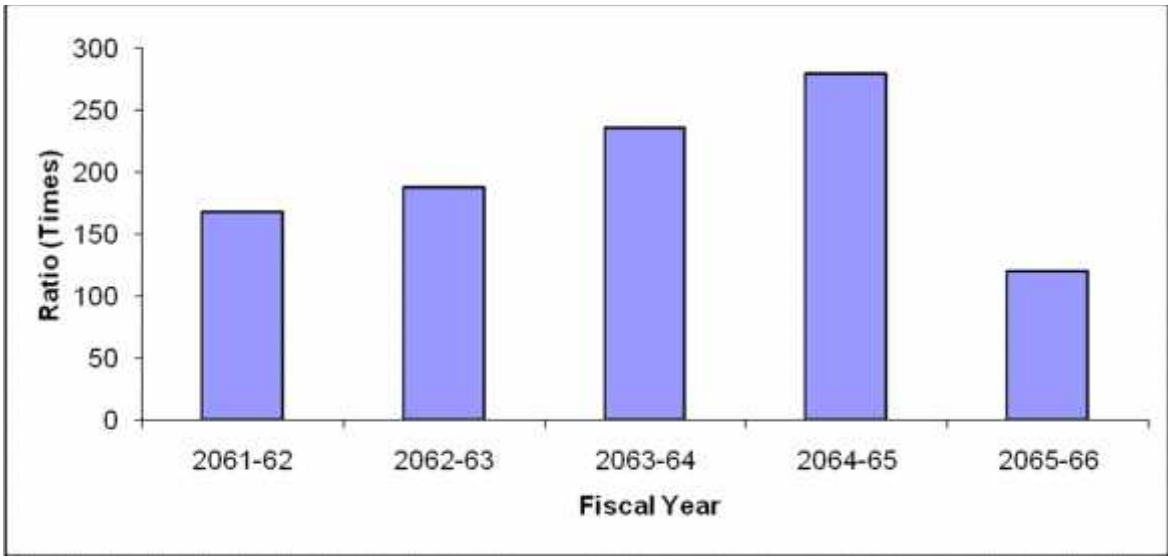
Fiscal Year	Sales	Cash and Bank	(Times) Ratio	Cash Conversion Days
2061-62	1917.77	11.45	167.49	2
2062-63	1760.45	9.17	187.30	2
2063-64	1781.87	7.57	235.38	2
2064-65	1843.41	6.61	278.88	1
2065-66	1711.30	14.31	119.58	3
Total	9014.80	49.65	-	-
Average	1802.96	9.93	181.56	2

Source: Annual Report of HSIPL.

The above table shows erratic fluctuations have been observed in cash turnover analysis. The ratio is fluctuating too high or too low, indicative of no definite policy of holding cash balance in relation to sales volume. Above table shows that have highest ratio of 278.88 times has been observed in FY 2064-65. Like wise, the lowest ratio of 119.58 has been observed in FY 2066-67. Overall, average ratio has bee calculated 181.56 times. Like wise the average cash turnover cycle has been found 2 days. However, due to unavailability of information regarding credit policy of the company, the credit days allowed to its debtor was not know. So, on 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.

Fig. 4.2: Cash Turnover Ratio



4.1.3 Analysis of Current Ratio

One of the reliable method to examine liquidity of an enterprise is by means of current ratio. i.e. current assets to current liabilities.

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 in to consideration the nature of the company. Satisfactory current ratio for a public enterprise is generally very low, as normally these companies have very little need for current assets. But in general ratio less than 1:1 certainly. Undesirable for any enterprise.

Table 4.3: Analysis of Current Ratio

(Rs in million)

Fiscal Year	Current Assets	Current Liabilities	Ratio (times)
2061-62	959.99	362.80	2.65:1
2062-63	831.19	336.45	2.47:1
2063-64	1029.17	826.02	1.25:1
2064-65	1027.96	754.88	1.36:1
2065-66	1679.09	1048.31	1.60:1
Total	5527.40	3328.46	-
Average	1105.48	665.69	1.66:1

Source: Annual Report of HSIPD.

The above figure shows that the current ratio varies from 2.65:1 in the FY 2061-62 to 1.25:1 in the FY 2063-64 indicating highly fluctuations. Observing the figure one may note that none of the ratios calculated in the fiscal years under study in below 1:1 The most favorable current ratio was observed in the FY 2065-66 when the ratios is 1.60:1.

4.1.4 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 correct 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 balances .

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 his quick ratio is more reliable measure of liquidity than current ratio. Quick ratio is so called because it measures the capacity of a firm covert its current assets quickly in to cash in order to meet its current liabilities.

Table 4.4: Analysis of Quick Ratio

(Rs in million)

Fiscal Year	Quick Assets	Current liabilities	Ratio (times)
2016-62	399.90	362.80	1.10:1
2062-63	397.57	336.45	1.18:1
2063-64	435.26	826.02	0.53:1
2064-65	365.18	754.88	0.48:1
2065-66	656.29	1048.31	0.63:1
Total	2245.20	3328.46	-
Average	450.84	665.69	0.68:1

Source: Annual Report of HSIPD.

The standard quick ratio to be maintained by the enterprise is 1:1. From the above table, one may conclude that the ratios abstained are satisfactory for the fiscal year 2061-62. 2062-63, 2063-64, since during these fiscal years the ratios tend to be around the standard ratio 1:1. However other ratio for rest of the fiscal years have been below the standard ratio, and as such liquidity positions for the corresponding years are unsatisfactory.

A note worthy polut of observation here is, in the FY 2061-62, where the current ratio calculated in table No. 3 i.e. 2.65:1 and quick ratio calculated for the same fiscal year is 1.10:1 suggested liquidity position to be satisfactory. Thus the analyses of liquidity position by these both methods have given a precise, insight inot the liquidity political of Hulas steel industries Pvt. Ltd.

4.1.5 Analysis of Receivable Turnover Ratio

This ratio shows how quickly receivables are converted in to cash. The ratio shows how well the debtors have been 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. Like wise, lower ratio and longer average collection period signals delayed payments by the debtors.

Table 4.5: Analysis of Receivable Turnover Ratio

(Rs in Million)

Fiscal Year	Sales	Receivables	Ratio (time)	Average collection days
2061-62	1917.77	236.49	8.11	44
2062-63	1760.45	246.50	7.14	50
2063-64	1787.87	240.89	7.39	49
2064-65	1843.41	1021.34	1.80	200
2065-66	1711.30	371.93	4.60	78
Total	9014.80	2117.15	-	-
Average	1802.69	423.43	4.26	85

Source: Annual Report of HSIPD.

From the above table shows that the ratios are moderately fluctuating and very form the lowest of 1.80 times to the highest of 8.11 time in the fiscal year 2065-66 and 2061-62 respectively.

Likewise, the average collection days very from 44 days to 200 days in the fiscul year 2061-62 and 2065-66 respectively and overall, the average of average collection days is 85 days. Since the information regarding. Credit days extended to customers are not available, and more over, such credit days are likely to very depending upon teh nature of debtors, there is no absolute means of comparison available to compare the average collection days. So analysis regarding average collection days has not been carried out.

However, It should be noted that too short average collection days doesnot necessarily imply that the firm is functioning well, for it indicates a very restrictive credit and collection policy there by restricting its sales only to those debtors whose financial conditions are sound and who make their payments readily. Such restrictive police 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 u

4.1.6 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 signals 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 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 4.6: Analysis of Inventory Turnover Ratio

(Rs in million)

Fiscal Year	Sales	Inventory	Ratio times
2061-62	1917.77	560.09	3.42
2062-63	1760.45	433.62	4.06
2063-64	1781.87	593.91	3.6
2064-65	1843.41	662.78	2.78
2065-66	1711.30	1022.80	1.67

Total	9014.80	3273.20	-
Average	1802.96	654.64	2.75

Source: Annual Report of HSIPD.

From the above table shows that the ratio fluctuates from 1.67 times to 4.06 times and there occur at 2065-66 and 2061-62. The ratio fro the fiscal year 2062-63 is 4.66 times the highest of an ratios, has definitely suggested that during the priod, either the company should have undergone underinvestment or the inventory held was comparatively lower. The fluctuation is moderated and the overall ratio has been calculated 2.75 times.

4.1.7 Analysis of Cash and Bank Balance to Account Receivable

This ratio measures the relationship between the cash balance on hand to account receivable. This higher ratio indicates better liquidity position and vice-versa. However, too high ratio indicates excessive cash balances are held idle and that the transaction are limited only to parties making prompt payments.

Table 4.7: Analysis of cash and Bank Balance to Account Receivable

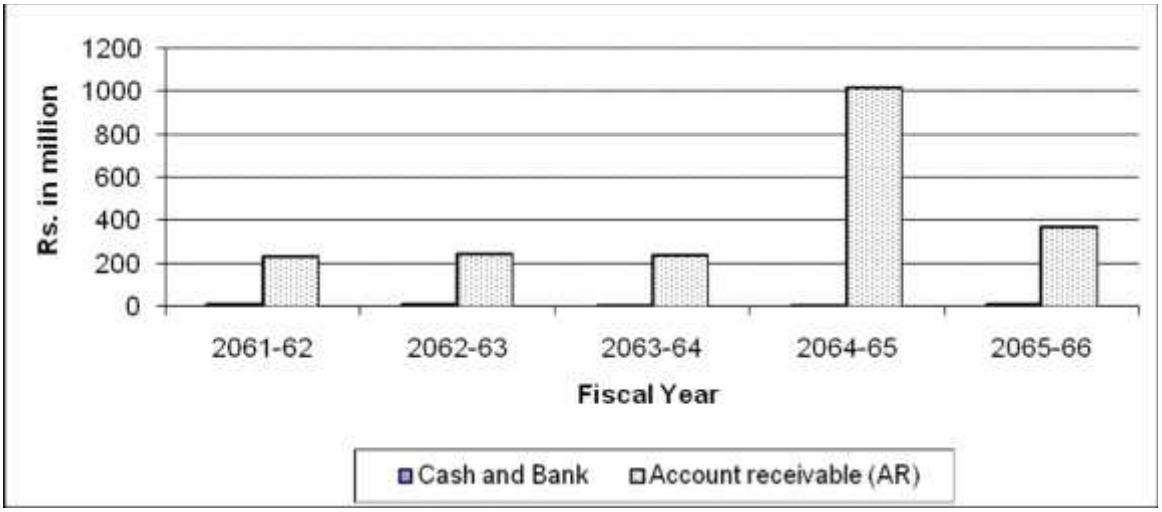
(Rs in million)

Fiscal Year	Cash and Bank	Account receivable (AR)	Percentage of (AR)
2061-62	11.45	236.49	4.84
2062-63	9.71	246.50	3.94
2063-64	7.57	240.89	3.14
2064-65	6.61	1021.34	0.65
2065-66	14.31	371.93	3.85
Total	49.65	2117.15	-
Average	9.93	423.43	2.35

Source: Annual Report of HSIPD.

Above table shows that the ratio or percentage of account receivable fluctuate from 0.65% to 4.84% an erratic fluctuation. In fiscal year 2061-62, the percentage of account receivable is 4.84% which indicated that the cash balance had is excessive and has been idle. The erratic fluctuations suggest that the company hasn't been following a definite policy regarding how much cash balance to hold at the fiscal year end. The average percentage of account receivable is 2.35% . It can be presented with the help of graph to show the relationship between cash at bank balance and account receivable.

Fig. 4.3: Cash and Bank Balance to Account Receivables



4.1.8 Analysis of cash and Bank Balance to current Assets

As we know that 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 motives.

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

Table 4.8: Analysis of Cash and Bank Balance to Current Assets

(Rs in million)

Fiscal Year	Cash and Bank	Current Assets	Ratio Of Cash and Bank to Current Assets	Difference Ratio
2061-62	11.45	959.99	1.19%	-
2062-23	9.71	831.19	1.16%	(0.03)
2063-64	7.57	1029.17	0.74%	(0.42)
2064-65	6.61	1027.96	0.64%	(0.10)
2065-66	14.31	1679.09	0.85%	0.21
Total	49.65	5527.40	-	-
Average	9.93	1105.48	0.89%	-

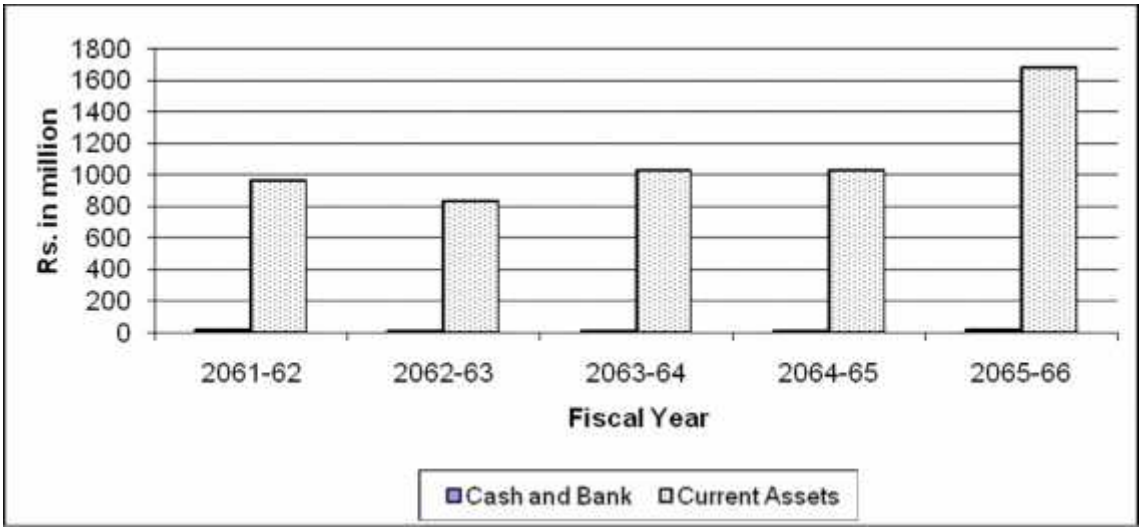
Source: Annual Report of HSIPD.

The above table shows the percentage of cash and Bank balance to current assets of the Hulas steel industries. Above 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 range from the lowest of 0.64% to highest of 1.19% in the fiscal year 2064-65 and 2061-62 respecting. Attention has been drawn in the FY 2063-64, 2064-65 and 2065-66 where the percentage of cash and bank balance to current Assets is very low with 0.74%, 0.64% and 0.85% only.

These data shows that the company has undergone cash scarcity to meet short-term payments during these fiscal year. On an average the projection of cash and bank balance to current assets for the study period 0.89%.

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

Fig. 4.4: Cash and Bank Balance to Current Assets



4.1.9 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 index of cash management. This ratio indicates the amount of cash (in percentages) available to pay the current obligation of the firm. A moderate ratio is considered satisfactory, too high ratio indicates excess cash balance held idle and too low ratio is indicative of company being unable to meet its payment of current liabilities in time.

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

(Rs in Million)

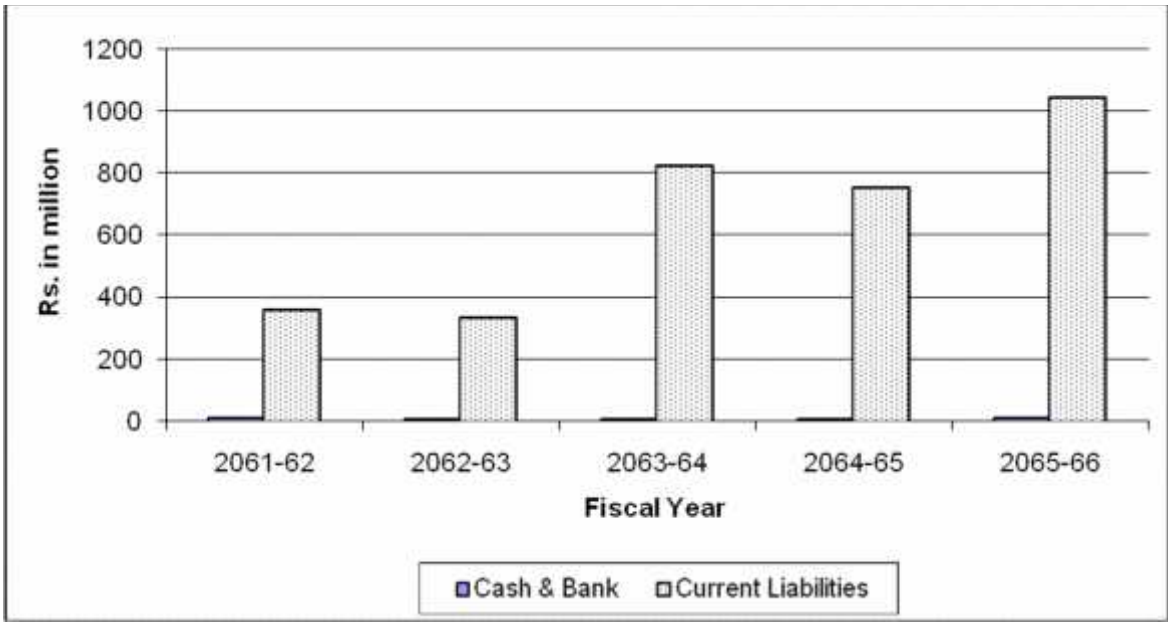
Fiscal Year	Cash & Bank	Current Liabilities	Ratio %
2061-62	11.45	362.80	3.16
2062-63	9.71	336.45	2.88
2063-64	7.57	826.02	0.92
2064-65	6.61	754.88	0.87
2065-66	14.31	1048.31	1.36
Total	49.65	3328.46	-
Average	9.93	665.69	1.49

Source: Annual Report of HSIPD.

Above table shows that the ratio fluctuate from the lowest of 0.87% to the highest of 3.16% in the fiscal years 2064-65 and 2061-62. The above table has clearly indicated that the company hasn't been following a systematic cash management practice. The average ratio has been found calculated 1.49%.

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

Fig. 4.5: Cash and Bank Balance to Current Liabilities



4.1.10 4.1.10 Analysis of Net profit Margin Ratio

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

Table 4.10: Analysis of Net Profit Margin Ratio

(Rs in million)

Fiscal Year	Net profit After Tax (loss)	Sales	Ratio (%)
2061-62	54.01	1917.77	2.82%
2062-63	74.96	1760.45	4.26%
2063-64	25.52	1781.45	1.43%
2064-65	12.65	1843.41	0.68%
2065-66	14.85	1711.30	0.87%
Total	181.99	9014.80	-
Average	36.39	1802.96	2.02%

Source: Annual Report of HSIPD.

Above table shows that the company has been operation under profit in an of the fiscal year. The net profit margin ratio observed in FY 2062-63 is maximum with a ratio of 4.26% overall the company has been operating under profit but from FY 2063-64, the net profit margin ratios observed is declining. The average net profitability margin has been calculated 2.02%.

4.1.11 4.1.11 Analysis of Return an Working Capital

This is yet another ratio to examine 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

Table 4.11: Analysis of Return on Working Capital

(Rs in million)

Fiscal Year	Net profit After Tax (loss)	Current Assets	Ratio (%)
2061-62	54.01	959.99	5.63%
2062-63	74.96	831.19	9.02%
2063-64	25.52	1029.17	2.48%
2064-65	12.65	1027.96	1.23%
2065-66	14.85	1679.09	0.88%
Total	181.99	5527.40	-
Average	36.39	1105.48	3.29%

Source: Annual Report of HSIPD.

Above table shows that the company has been utilizing its current assets effectively in earning profit But from FY 2063-64, the ratio is declining which calls for serious attention.

Besides, the overall ratio is also satisfying. In FY 2062-63, the company has maximum return an working capital with ratio of 9.02%.

Overall the return on working capital is satisfying. The average return an working capital has been calculated 3.29%.

4.1.12 Analysis of Net Profit after Tax to Quick Assets

Table 4.12: Analysis of Net Profit after Tax to Quick Assets

(Rs in million)

Fiscal Year	Net profit after Tax (loss)	Quick Assets	Ratio (%)
2061-62	54.01	399.90	13.50%
2062-63	74.96	397.57	18.85%
2063-64	25.52	435.26	5.86%
2064-65	12.65	365.18	3.46%
2065-66	14.85	656.29	2.26%
Total	181.99	2245.20	-
Average	36.39	450.84	8.07%

Source: Annual Report of HSIPD.

Above table shows that the profitability of the company is satisfactorily. The figures clearly idicate that utilized quiche assets have been earning profit in the average. Very significant positive ratio has been observed in FY 2061-62 and 2065-66 with 13.50% and 18.85%. The ratio fluctuates from lowest 2.26% to highest 18.85% in FY 2065-66 and 2062-63. respectively. Ratio is declining from FY 2063-64. Overall, the average ratio has been calculated 8.07%.

4.2 Analysis of Secondary Data by "Statistical Tools"

4.2.1 Analysis of Dispersion in Cash and Bank Balance

Table - 13 shows the dispersion in the cash balances at the year ends under study; "standard deviation" is the measures of dispersion used for the analysis.

Table 4.13: Analysis of Dispersion in Cash and Bank Balance

Mean ($\bar{X}$)	Standard Deviation (±)	Coefficient of Variation
9.93	2.76	27.80%

Source: Appendix 5

Cauputon standard deviation has been found Rs. 2.76 million, which indicates very low degree of uniformity in holding cash balance in the fiscul year end

Calculation of coefficient of variation (CV) further shows that the unifouity of cash balance held is very low.

Lower CV. indicates higher consistency or highly stable cash balance whereas higher CV. indicates just the opposite CV. of 72.80% definitely signifies that the homogeneity in holding cash balance is very high.

4.2.2 Fitting the Straight Line Trend by Least Square Method for Radiations in Cash and Bank Balance

This is one of the time series analyses, where future events of a variables (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 Hulas steel industries in future years, based on its past trend.

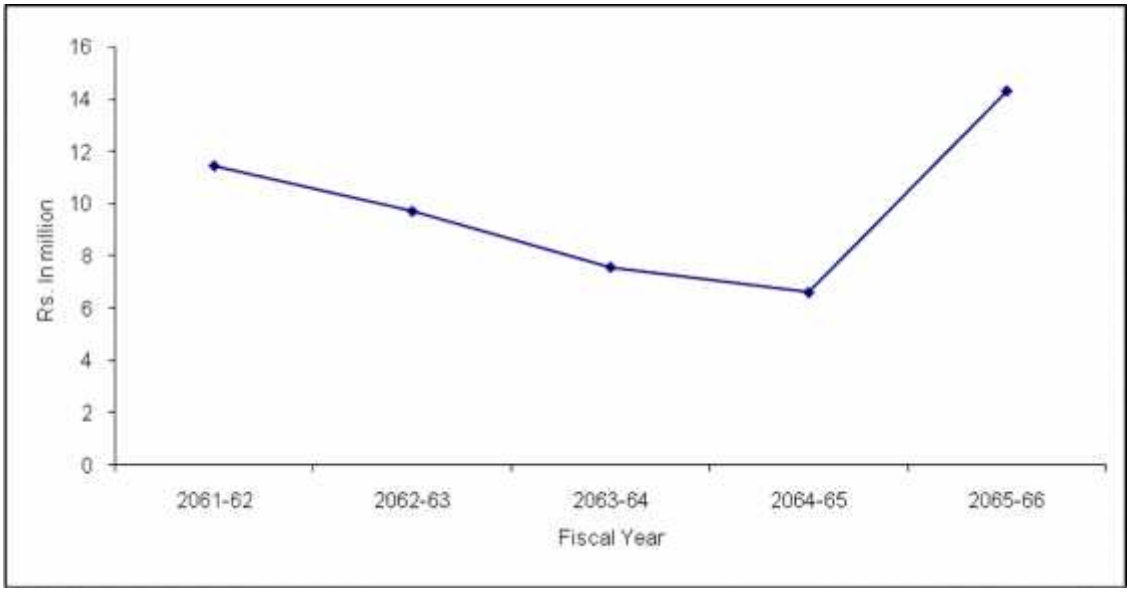
The equation of straight line trend is given by $Y_C = a + bx$

$= 9.93 + 0.28X$

Source: Appendix 6

The trend line shows positive figure of cash balance in future. The annual rate of increment in cash balance has been calculate Rs 0.26 ⎪ 1000000 = Rs 260,000.

Fig. 4.6: Trend Line for Variation in Cash Balance



4.2.3 Analysis of Karl Pearson's Coefficient of Correlation or 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 (E.)

Table 4.14: Analysis of Karl Pearson's Coefficient of Correlation between Sales and Cash Balance

Kal Pearson's Correlation (r)	Probable Error (PE)	6 PE
0.306	0.2734	1.640

Source: Appendix 7

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 = -0.306

$|r|$ = 1-0.3061 = 0.306

Now, calculation of probable error (E) =

Now, If (r) >6 (E). It is indicative of statistically significant positive correlation. Like wise, if (r) < 6(E), It is indicative of statistically insignificant positive correlation.

But in this case, E < (r) < 6 (PE) i.e. 0.2734 < 0.306 < 1.6400. This implies, thorough there exists negative 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 sales volume, higher cash balance and vice versa.

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

r + E = -0.306 + 0.2734 = -0.033 (upper limit)

r - E = -0.306-0.2734 = -0.5794 (lower limit)

So, the coefficient o correlation is expected to lie between -0.0033 and -0.5794

4.2.4 Regression Analysis

A regression line can also be fitted to show the degree of relationship between sales and cash balance. Cash balance 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,

$$X - \overline{X} = r \frac{\exists}{\exists Y} (Y - \overline{Y})$$

Where,

$\overline{X}$ = mean sales = 1802.96

Y = mean cash balance = 9.93

$\exists X$ = standard deviation of sales

$$= \sqrt{\frac{\phi (X - \overline{X})^2}{N}} \quad X \sqrt{\frac{25470.99}{5}} = 71.37 \text{ million}$$

$\exists y$ = standard deviation of cash

$$= \sqrt{\frac{\phi (Y - \overline{Y})^2}{N}} \quad X \sqrt{\frac{38.13}{5}} = \text{Rs } 2.76 \text{ million.}$$

r - Karl Pearson's coefficient of correlation = 0.5652

Now, $(X - \overline{X} = r \frac{\exists X}{\exists Y} (Y - \overline{Y})$

or $(X - 1802.96) = 0.5652 \mid \frac{71.37}{2.76} (Y - 9.93)$

or, $(X - 1802.96) = 14.615 (Y - 9.93)$

or, $X = 14.615 Y + 1657.83$

or, $X = 1657.83 + 14.615Y$

This equation shows that sales are estimated to increase by 14.615 per unit increase in cash balance.

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

Now, $(Y-\overline{Y})\ Xr\ \frac{\exists Y}{\exists X}\ (X\ Z\overline{X})$

or $(Y-9.93) = 0.5652\ |\ \frac{2.76}{71.37}\ (X-1802.96)$

or, $(Y-9.93) = 0.0218\ (X-1802.96)$

or, $Y - 9.93 = 0.0218X - 39.30$

or, $Y = -2937 + 0.0218X$

This shows that cash balance is estimated to increase by 0.0218 units per increase in sales.

4.2.4.1 Analysis of Karl Pearson's Coefficient of Correlation Between Account Receivable and Cash Sales

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

Table 4.15: Analysis of Karl Pearson's Coefficient of Correlation Between Account Receivable and Cash Balance

Kal Pearson's Correlation (r)	Probable Error (PE)	6 PE
0.4836	0.2311	1.3866

Source: Appendix 8

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 = 0.4836

$|r|$ = (-0.4836) = 0.4836

Now, If (r) > 6(E), it is indicative of statistically significant negative correlation, likewise, if (r) < PE, it is indicative of statistically insignificant negative correlation.

But in this case, E < (r)< 6(E) i.e. 0.211< 0.4896<1.3866. This implies, through 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 has not been increasing with increase in its account receivables.

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

r + E = -0.4836 +0.2311 = -0.2525 (upper limit)

r - E = 0.4836 - 0.2311 = -0.7147 (lower limit)

So, the correlation coefficient is expected to lie between -0.2525 and -0.7147.

4.2.4.2 Regression Analysis

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

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

$$(X-\overline{X})\ Xr\frac{\exists X}{\exists Y}(Y\ Z\overline{Y})$$

Where,

$\overline{X}$ = mean receivables = 423.43

Y = mean cash balance = 29.93

∃x = Standard deviation of receivables

$$= \sqrt{\frac{\phi(X - \overline{X})^2}{N}} \quad X\sqrt{\frac{459720.24}{5}} = \text{Rs. } 303.22\text{million}$$

∃y = Standard deviation of cash balance

$$= \sqrt{\frac{\phi(Y - \overline{Y})^2}{N}} \quad X\sqrt{\frac{38.13}{5}} = \text{Rs } 2.76 \text{ million.}$$

r = Karl Pearson's coefficient of correlation = -0.4718

Now,

$$(X - \overline{X}) \, Xr \frac{\exists X}{\exists Y} (Y - \overline{Y})$$

$$(X-423.23) = -0.4718 \mid \frac{303.22}{2.76} (Y-9.93)$$

or, (X- 423.23) = -51833 (Y-9.93)

or, (X- 423.23) = -51.833Y + 514.70

or, X = 938.13 - 51.839Y

This equation shows the receivables are estimated to increase by 51.833 per unit decrease in cash balance.

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

$$(Y-\overline{Y})\ Xr\frac{\exists Y}{\exists X}(X\ Z\overline{X})$$

$$\text{or } (Y-9.93) = -0.4718 \mid \frac{2.76}{303.22}(X-423.43)$$

$$\text{or, } (Y-9.93) = -0.0043\ (X-423.43)$$

$$\text{or, } Y - 9.93 = 0.0043X + 1.8184$$

$$\text{or, } Y = 11.75 - 0.0043X$$

This shows that cash balance is estimated to increase by 0.0043 per unit decrease in receivable.

4.2.5 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 4.16: Analysis of Karl Pearson's Coefficient of Correlation (r) between Current Assets and Cash Balance

Kal Pearson's Correlation (r)	Probable Error (PE)	6 PE
0.6830	0.1609	0.9656

Source: Appendix 9

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 has been calculated as follows:

Now, If r>6 (E), it is indicative of statistically significant positive correlation,

Likewise, If r<(E), it is indicative of statistically insignificant positive correlation.

But in this case, E < r < 6(E), i.e. 0.1609<0.6830<0.9656. This implies, through 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 + E = 0.6830 + 0.1609 = 0.8439 (upper limit)

r - E = 0.6830 - 8.1630 = 0.5221 (lower limit)

So, the coefficient of correlation is expected to lie between 0.8439 and 0.5221.

4.2.6 Analysis 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 4.17: Analysis of Karl Pearson's Coefficient of Correlation (r) between Current Liabilities and Cash Balance

Kal Pearson's Correlation (r)	Probable Error (PE)	6 PE
0.1611	0.2938	1.7629

Source: Appendix 10

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 has been calculated as follows:

Since, r = 0.1611, which is lower than probable error (E) = 0.2938 i.e. r< E, It indicates that positive correlation between these two variables is not practically significant. In other, words, when cash balance held decrease, the current liabilities increase and vice-versa. So, this definitely shows that there existed cash deficit to meet current liabilities payment.

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

r + E = 0.1611+ 0.2938 = 0.4549 (upper limit)

r - E = 0.1611 - 0.2938 = -0.1327(lower limit)

Hence, the correlation coefficient is expected to lie between 0.4549 and -0.1327.

4.2.7 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 4.18: Analysis of Karl Pearson's of Coefficient of Correlation (r) between Net Profit of after Tax and Cash Balance

Kal Pearson's Correlation (r)	Probable Error (PE)	6 PE
0.0848	0.2995	1.7968

Source: Appendix 11

Since, there exists, positive correlation between net profit after tax and cash balance. The correlation should be statistically significant to ascertain that there practically exist correlation between the two variables. For this purpose, probable error has been calculated as follows,

Since, r = 0.0848, which is lower than probable error (E) = 0.2995, i.e. r<E, it indicates that positive correlation between these two variables is not practically significant. In other words, when cash balances held decrease, then et profit after tax increase and vice-versa. So, this definitely shows that there existed cash deficit to meet net profit after tax.

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

r + E = 0.0848+ 0.2995 = 0.3843 (upper limit)

r - E = 0.0848 - 0.2995 = -0.2147(lower limit)

So, the coefficient of correlation is expected to lie between 0.3843 and -0.2147

4.3 Analysis of Cash Flow Statement

Cash flow statement of the company signifies the movement of cash in and out of company. Inflow of cash is known as sources of cash and outflow 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 flow and outflow are explained and shown in cash flow 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 2061-62 to 2065-66.

4.3.1 Analysis of Operating Activities

Overall, the operating activities of Hulas Steel industries have been observed to be moderate on account of the fact that there occurred cash inflows as well as outflows from such operating activities in FY under study. However, there have been high fluctuations observed in such cash inflows and outflows, ranging from the highest outflow of (Rs 53.58) million in FY 2065-66 and the highest inflow of Rs 199.91 million in FY 2062-63. A moderate fluctuation is favored in view of sound operating activities.

4.3.2 Analysis of Investing Activities

Investing activities of Hulas Steel industries have been observed to be the poorest of all the three activities involved in cash flow statement. This activity has incurred cash outflows every year ranging from (Rs 9.72) million to (Rs 125.96) million in FY 2065-66 and 2062-63. These negative figures, i.e. cash outflows under the heading, net cash flow from investing activities in all FYs verify the fact that there never occurred cash inflow from investing activities. Only a small portion of surplus cash has been found investing in short-term investments, and as such, there never occurred cash inflow from investing activities.

4.3.3 Analysis of Financing Activities

Financing activities has also been observed to be moderate. This activity has incurred cash outflows of (Rs 75.69) and (Rs 46.30) million in two FYs. 2062-63 and 2063-64 and cash inflows of Rs 67.17, 61.40 and 70.90 million in FYs, 2061-62, 2064-65 and 2065-66 respectively. Thus, it can be said that the financing activities of the company is in increasing trend.

Table 4.19: Cash Flow Statement FY 2061/62 and 2062/63

(Rs. in Million)

Particulars		**FY 2061/62**	**FY 2062/63**
A:	**Cash Flow from Operating Activities**		
	Net Profit (loss) before income tax	**81.69**	**87.87**
	Adjusted for:		
	Dep^{n}	42.61	59.19
	(Gain) Loss on sale of fixed assets	(0.92)	0.01
	(Profit) Loss on exchange	(0.42)	(0.05)
	Preliminary expenses	(2.33)	1.34
	Other income	-	(0.15)
	Operating profit before working capital change	**120.63**	**148.06**
Add:	Decrease in inventories	-	126.47
	Decrease in sundry debtors	-	39.98
	Decrease in other current assets	-	-
	Decrease in loan and advances	-	14.02
	Increase in current liabilities	-	-
	Increase in provision	-	22.80
Less:	Increase in inventories	(11.57)	-
	Increase in sundry debtors	(36.35)	-
	Increase in other current assets	(1.89)	(3.43)
	Increase in loan and advances	(23.49)	-
	Decrease in current liabilities	(28.40)	(130.49)
		18.93	**217.41**
	Tax paid	(15.00)	(17.50)
Net Cash dues in Operating Activities		**3.93**	**199.91**
B: Cash Flow from Investing Activities			
	(Purchase) Sale in fixed assets	(71.33)	(79.39)
	(Purchase) Sale of investment	1.85	(47.75)
	Dividend/Interest on investment	1.18	1.18
Net Cash Flow from Investing Activities		**(68.30)**	**(125.96)**
C: Cash Flow from Financing Activities			
	Increase (Decrease) in loans	67.17	(75.69)
Net cash flow from Financing Activities		**67.17**	**(75.69)**

Net Increase/(Decrease) in Cash and Cash Equivalent (A+B+C)	**2.80**	**(1.74)**
Cash and Cash Equivalent at the beginning of the period	**8.65**	**11.45**
Cash and Cash Equivalent at the end of the period	**11.45**	**9.71**

Table 4.20: Cash Flow Statement FY 2063/64 and 2064/65

(Rs. in Million)

Particulars		**FY 2063/64**	**FY 064/65**
A:	**Cash Flow from Operating Activities**		
	Net Profit (loss) before income tax	31.86	24.44
	Adjusted for:		
	Dep^{n}	39.72	36.56
	(Gain) Loss on sale of fixed assets	-	(0.05)
	(Profit) Loss on exchange	0.08	0.07
	Preliminary expenses	(1.13)	2.01
	Other income	0.50	1.44
	Operating profit before working capital change	**71.03**	**64.47**
Add:	Decrease in inventories	-	-
	Decrease in sundry debtors	5.62	-
	Decrease in other current assets	0.71	0.37
	Decrease in loan and advances	-	20.16
	Increase in current liabilities	231.84	34.82
	Increase in provision	1.81	2.44
Less:	Increase in inventories	(160.25)	(74.87)
	Increase in sundry debtors	-	(43.90)
	Increase in other current assets	-	-
	Increase in loan and advances	(46.10)	-
	Decrease in current liabilities	-	-
		104.66	**3.49**
	Tax paid	(6.30)	(5.15)
Net Cash dues in Operating Activities		**98.36**	**1.66**

B: Cash Flow from Investing Activities		
(Purchase) Sale in fixed assets	(26.75)	(33.04)
(Purchase) Sale of investment	(28.64)	(28.50)
Dividend/Interest on investment	1.18	0.85
Net Cash Flow from Investing Activities	**(54.21)**	**(60.69)**
C: Cash Flow from Financing Activities		
Increase (Decrease) in loans	(46.30)	61.40
Net cash flow from Financing Activities	**(46.30)**	**51.40**
Net Increase/(Decrease) in Cash and Cash Equivalent (A+B+C)	**(2.16)**	**(0.95)**
Cash and Cash Equivalent at the beginning of the period	**9.71**	**7.56**
Cash and Cash Equivalent at the end of the period	**7.56**	**6.61**

Table 4.21 Cash Flow Statement FY 2065/66

(Rs. in Million)

Particulars		**FY 2066**
A:	**Cash Flow from Operating Activities**	
	Net Profit (loss) before income tax	**18.84**
	Adjusted for:	
	Dep^{n}	34.41
	(Gain) Loss on sale of fixed assets	(1.34)
	(Profit) Loss on exchange	0.18
	Preliminary expenses	(0.33)
	Other income	(1.80)
	Operating profit before working capital change	**49.96**
Add:	Decrease in inventories	-
	Decrease in sundry debtors	14.24
	Decrease in other current assets	1.32
	Decrease in loan and advances	-

	Increase in current liabilities	273.33
	Increase in provision	0.21
Less:	Increase in inventories	(360.00)
	Increase in sundry debtors	-
	Increase in other current assets	-
	Increase in loan and advances	(28.57)
	Decrease in current liabilities	-
		(49.51)
	Tax paid	(3.97)
Net Cash dues in Operating Activities		**(53.48)**
B: Cash Flow from Investing Activities		
	(Purchase) Sale in fixed assets	(10.13)
	(Purchase) Sale of investment	(0.44)
	Dividend/Interest on investment	0.85
Net Cash Flow from Investing Activities		**(9.72)**
C: Cash Flow from Financing Activities		
	Increase (Decrease) in loans	70.90
Net cash flow from Financing Activities		**70.90**
Net Increase/(Decrease) in Cash and Cash Equivalent (A+B+C)		**7.70**
Cash and Cash Equivalent at the beginning of the period		**6.61**
Cash and Cash Equivalent at the end of the period		**14.31**

4.4 Analysis of Budgeting Allocation Practice of Hulas Steel Industries

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 allocation budget. However, in practice rarely does these two coincide, and as such tendency to coincide is

indicate to 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 cash also be considered satisfactory. However too high ratio indicates that the firm is over cautious of cash deficit and as such advocates higher budget than required. Likewise, a ration lower to 1:1 refers that the company faces cash deficit in its investment and signals serious problems in meeting cash payments.

But since, Hulas Steel industries Pvt. Ltd. is a private company, the company has no system of allocating budget for any expenses. Whatever the company wants to purchase or has to make expenses the company takes loan from the bank and it pay back its loan after selling its product. The company takes loan on the basis of the order of the products its gets from the customer. It is seen that the company is allocating budget of 50 lakhs to 55 lakhs per year for advertisement purpose only and in average ever year around 40 lakhs to 45 lakhs to expenses has been made on advertisement.

Not only Hulas Steel industries, but all the private enterprises did not allocated budget for its production expenses. The main objectives of these kind of enterprises is to earn profit, so they do not allocate budget without knowing the actual expenses. They are profit oriented organization.

4.5 Analysis of Primary Data Collected Through Questionnaire

In course of analyzing the data, I haven 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 by the help of company's employee having different post i.e. project coordinator, senior account, officer, sales managers, junior account officer.

There are 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 employee of the company. On the basis of answer given by them I am going to analyze the answers. For

this purpose, arrange the information in a tabular form which is as below and questionnaire given with options of answers are kept in last at annex.

Table 4.22: Analysis of Respondent Answer

Q. No	Number of respondents					
	Options of answer					
	Yes	No	a	b	c	d
1.			4			
2.		4				
3.						
4.					4	
5.	4					
6.	4					
7.			1	3		
8.	4					
9.				2	2	
10.				4		
11.	4					3
12.					1	
13.	4					
14.	4					
15.	4					
16.	4					
17.				3	1	
18.	4					
19			2	2		

(Source: Details of questionnaires see Annex)

Except some exception, there seems to be homogeneity in answers for the questionnaire numbers ; 1, 2, 4, 5, 6, 8, 10, 11, 13, 14, 15, 16, 18. On these questions most of the respondent's answers are match in each other whereas different answer are given in remaining other questionnaire.

According to respondents answers it can be said that the company hold cash for transaction motives. From the above table shows that the company does not prepared cash allocation budget.

There are different through of the respondents for the conditions and circumstances to maintain minimum cash balance, one respondent is in the favors of seasoned fluctuation in sales, more are in the favour of the meet flare contingencies. Most of the respondents are in the favour of making any investment of excess cash balance. Some respondents are in favour of assets investment in bank and some are in favour of assets investment for the business expansion.

From the above table, it is seen that the most of the respondents are in favour of bank ban owing it cash balance falls below its minimum cash balance. Most of the respondents are favour in following any specific method for cash collection. Some respondents answered that the major problems of the company is problem of effective utilization of cash and some are in favour of other. Most of the respondents are in the favour of not using any standard methods or models for determining optimal cash balance.

Most of the respondents are in favour of uniform forms of credit cmowed to customer and charging interest on delayed payments as well as, offering cash discount to the customers for early payment out of foun one say that the company takes advantage of cash discount ravel and three respondents says that the company sometimes take advantage of cash discount. According to respondents majority. It can be said that the organization is able to pay short term liabilities on due data. There are different through of the respondents for improving cash collection system, some are in the favour of initiate compromise, some are in the favour of charging higher rate of interest.

Thus by analyzing this primary information it is found that the result of secondary data analysis and results of primary data analysis are methods in various major aspects.

Hence, finally, the major and important part of this thesis i.e presentation and analysis of data comes to an end overall, the cash management in Hulas steel industries has been analyzed to be poor However, the analysis presented here couldn't be considered complete and final. In subsequent chapter, major findings of the analysis and recommendations to remedy the situation have been presented systematically. In the like manner conclusion have been drawn at the end of this thesis.

4.6 Major Findings

Summary of major findings has been presented under following headings corresponding to study objectives.

4.6.1 Overall Cash Management

- Hulas steel industries doesn't have any definite policy regarding how much of cash balance to hold each fiscal Year.

- Cash bank balances had during fiscal year under study were observed to be high fluctuated. Dispersion of cash and bank balance of Rs. 2.76 million and coefficient of variation (CV) of 27.80%. Equation of straight live trend shows that cash balance decrease by Rs 260,000 every year. Thus the vary fact indicated the company to be lacking definite policy regarding how much of cash and balance to hold each FY. moreover the cash balance held is in decreasing trend.

- Hulas steel industries has not been for casting cash balance taking in to consideration the sales volume

- Basides cash and bank balance held being fluctuated, such balances do not seem to comply with sales of the firm correlation coefficient between cash and bank balance and sales being negative of - 0.306 and the relation E< r < 6 (E) suggested statistically inconclusive positive correlation as to significant /insignificant, showing little complicity of cash and bank balances with sales variable.

- Hulas steel industries fails to collect receivables from its sundry debtors timely:

- Proportion of cash and bank compared to its account receivable is not in satisfactory trend, and that cash and bank balance doesn't increase or decrease in the same pattern as account receivable which suggests that holding of cash balance has no relation with account receivable of the company. Ratio of cash and bank balance to account receivable is 0.65% in the 2064-65 and 4.84% in FY 2061-62 which indicates the fluctuation is erratic. Correlation between cash and bank balance and account receivables in negative i.e -0.4836 which suggests increase in cash and bank balance follows decrease in account receivable and vice-versa.

- Hulas steel industries fails to maintain an adequate proportion of cash in its current Assets:

- Proportion of cash and bank balance in its current assets is very small and the cash balance held shown positive relation to the amount of current assets of Hulas steel industries. Average ratio of cash and bank to current assets is 0.89% which is very small portion of cash in current assets. Correlation coefficient between the two is 0.6830.

- Hulas steel industries has not been precisely meeting its current liabilities payments:

- The cash and bank balance hold compared to current liabilities indicate that for some FY such cash and bank balance held is excessively high and concerts for some other FYs such cash and bank balance is extremely low. This is yet

another indication of mismanagement of cash. Moreover, cash and bank balance is negatively correlated with current liabilities. The ratio of cash and bank to current liabilities is 3.16 excess cash and bank balance compared to current liabilities in FY 2061-62. In FY 2063-64 and 2064-65, the ratio are 0.92% and 0.87% which indicates that in these FYs, shortage of cash to meet its current liabilities, correlation coefficient between these two variables is positive i.e 0.1611.

4.6.2 Liquidity Position

Overall, the liquidity position of the company has been found moderately dissatisfactory.

- A large protion of Hulas steel Industry's current assets has been tied-up in the most illiquid Assets, i.e. Inventory.

- The cross examination of the liquidity position suggested that current assets have been tied-up in slow moving and unsolvable inventories. Analyses show that the average current ratio was found to be dissatisfying and calculated to be 1.61.:1 which is lower than the conventionally accepted current ratio of 2:1 The average quick ratio was also found to be dissatisfying and calculated to be 0.68:1, which 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 unsolvable inventories.

- Current assets and quick assets are not being maintained in accordance with current liabilities:

- Current assets are not maintained in the accepted pattern of i.e increase in current assets following increase in current liabilities and vice-versa. Likewise, neither the quick assets has been maintained in the accepted pattern of i.e. increase in quick asset followed by increase in current liabilities and vice-versa.

- profitability of Hulas steel industries being in increasing trend, liquidity does 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 current assets is 3.29% and average ratio of Net profit after tax to quick Assets is 8.07% These analyses indicate the profitability position of Hulas steel industries is increasing in an alarming rate.

4.6.3 Cash Flow Statement

- Operating activity of Hulas steel industries is moderately satisfactory.

- Overall, the operating activities of Hulas steel industries have been observed to be moderate on account of the fact that there occurred cash inflows as well as outflows from such operating activities in FYs under study. However, there have been high fluctuations observed in such cash outflows, and outflows, ranging from the highest outflows of (Rs 53.48) million in FY 2065/66 and the highest inflow of Rs 199.19 million in FY 2062-63.

- Financing activity of Hulas steel industries is also moderately satisfaction:

- Financing activities has also been observed to be moderate. This activity has incurred cash outflows of (Rs 75.69) and (Rs 46.30) million in two FYs 2062-63 and 25063-64 and cash inflows of Rs 67.17, 61.40 and 70.90 million in FYs 2061-62, 2064-65 & 2065-66 respectively. Thus, It can be said that the financing activities of the company is in increasing trend.

- Investing activity of Huls steel industries is very poor. Surplus cash and cash equivalent has not been invested in short- term investment opportunities:

- Investing activities of Hulas steel industries have been observed to be the poorest of all three activities involved in cash flow statement. This activity has incurred cash outflows every year ranging from (Rs 9.72) million to (Rs 125.96) million in FYs 2065-66 and 2062-63.

4.6.4 Cash Budgeting Practice

Since, there is on any system of allocating budget in Hula steel industries Pvt. Lt. it can be said that the company has no practice of handling cash budget, wherever, and whatever the company need money, It takes loan from bank and make expenses.

4.6.5 Issues and Constraints:

Management of cash in Hulas steel industries Pvt. Ltd, major issues and constraints have been noticed which are described as follows:

- The quality of management itself is a scarce factor in Hulas steel industries. The Performa Nance of Hulas steel industries extremist that the management lacks basic knowledge of financial management.

- It is observed that the cash management is least concerned forecast lacking in the company. The fluctuating trend of cash deficit reveals the fact clearly.

- The lack of accurate and proper sales forecast is one of the important constraints that affect the financial performances of the company. It the company forecasts the expected sales accurately, it can manage the various activities accordingly.

Restrictive credit policy is 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 an the receivable turnover by employing a restrictive credit policy. But however, this is true up to the certain point any because such strategy tends to decrease the sales.

CHAPTER V

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

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

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

For the purpose of conducting this study, mainly the secondary data were used. It constitutes mostly, the balance sheet and profit and loss account besides; the performance has also been supplemented from interview with the related persons of Hulas Steel Industries Pvt. Ltd.

In brief, overall cash management of Hulas Steel Industries if found to be poor. It is found that the company does not have any definite policy regarding how much of cash balance to hold each fiscal year. Also, Hulas Steel Industries has not been forecasting cash balance taking into consideration the sales volume. The cash and bank balance held

do not seem to comply with sales of the firm. The company also fails to collect receivables from its sundry debtors timely. The cash and bank balance held doesn't increase or decrease in the same pattern as account receivables which suggest that holding of cash and bank balance has no relation with account receivables. The proportion of cash and bank balance in its current assets is very small and the cash balance held shown positive relation to the amount of current assets which shows that the company fails to maintain an adequate proportion of cash in its current assets. Also, the company has not been precisely meeting its current liabilities payment. The company does not have a definite policy of holding cash. In some fiscal years, the company hold excessively high cash balance and in some fiscal years, the company hold extremely low cash balance and in some fiscal years, the company hold extremely low cash balance. This is the indication of mismanagement of cash.

Overall, the liquidity position of the company has been found dissatisfactory. The cross examination of the liquidity position suggested that current assets have been tied-up in slow moving and unsaleable inventories. The average current ratio and the average quick ratio were also found to be dissatisfying. Also, the current assets and quick assets are not maintained in accordance with current liabilities.

From the analysis, it can be said that the cash flow statement of Hulas Steel Industries is moderately satisfactory. The operating activities of Hulas Steel Industries have been observed to be moderate on account of the fact that there occurred cash inflows as well as cash outflows. But the investing activities have been observed to the poorest. It is seen that surplus cash and cash equivalent has not been invested in short term investment opportunities. The financing activities of the company are in increasing trend. Thus, it can be said that the financing activities of Hulas Steel Industries is also moderately satisfactory.

5.2 Conclusion

In conclusion, it can be said that cash management is an important part of the financial decision making variable. Many factors or determinates such as nature of business, level of sales, credit terms, quality of customers, economic condition etc have to be considered

in cash management. Apart from the level of purchase, method of creating cash management, establish of credit terms, types of credit policy, motives for holding cash, efficiency of cash management, different technique of cash management etc. are to be considered.

Conclusively, it can be stated that Hulas Steel Industry's cash management is poor. Declining profitability of the company adds 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 resources management, organizational structure, is marketing management etc. However, above all disappointing down-falling trend of the financial position is indicative of the fact that Hulas Steel Industries 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 Hulas Steel Industry's cash management situation.

5.3 Recommendations

Analysis, findings of the present study on Hulas Steel Industries Pvt. Ltd. has required some suggestions to improve the application of 'cash managemnt' system in Hulas Steel Industries for its better operation. The study recommends following aspects to improve Hulas Steel Industry's planning and performance as;

- Responsibility center should be clearly defined. Reward and punishment system for the performance of related responsibility center should be maintained. Hulas steel Industries should develop the systematic periodic performance reports detailed by assigned responsibility center for the accomplishment of the establishment objectives.

- The enterprise should be well familiar with its strengths and weaknesses and it should not be indifferent about its competitors. Because of the liberalized economic policy of the government, many steel industries may enter in the

market and abruptly Hulas Steel Industries will have to manage it to face the competition. That's why the enterprise should be aware of effective corporate planning system and strategic management. Hence, a systematic approach should be developed towards comprehensive cash management. This can considerable contribute to increase the profitability of the Hulas Steel Industries.

- Hulas Steel Industries Pvt. Ltd. should have proper cash planning to estimate the cash receipts and payments. It helps to minimize the problem of excess or deficit cash balance. Company should first identify the cash needs for operation. For this, company should consider the various expenses it has to incur such as; 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.

- Preparation of at least monthly trial balances of financial statements can help remedy adverse financial situations in time. A year's time is quite lengthy and thus, it is likely that analyses of yearly financial statements couldn't properly monitor and remedy the financial situation in time. Moreover, cash management being management of cash and near cash assets within a period of one year's time, calls for preparation of monthly trial balances of cash and near cash assets could be monitored there by taking preventive measures.

- 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 receivable. Account receivable 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.

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

- Cash flow statements have shown that investing activities are not functional. This fact together with the fact that Hulas Steel Industries 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.

- The study has identified that Hulas Steel Industries 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 company, holding of optimum cash balance as per its sales, profit and or other influencing variables is recommended.

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Appendix 1

Research Questionnaires for "Cash Management of Hulas Steel Industries Pvt. Ltd.

Dear Respondents, the answers of the following questions given by your will be used only for academic purpose and will be remained confidential.

Multiple answers are possible

1. What are the basic motives for holding cash in your organization ?

   Transaction motives [ ]

   Precantionary motives [ ]

   Speculatives motives [ ]

2. Does your organization use "Cash Budget" ?

   Yes [ ] No [ ]

3. If "yes" how often do you prepare a cash budget ?

   a. Annually [ ]

   b. Semi-annually [ ]

   c. Monthly [ ]

   d. Weekly [ ]

4. What policy does your organization follow in respect to sales ?

a. Cash sales [ ]

b. Credit sales [ ]

c. Cash and credit sales [ ]

5. Do your organization maintain minimum cash balance ?

Yes [ ] No [ ]

6. If yes, does your organization makes any changes in this balance ?

Yes [ ] No [ ]

7. If 'Yes' on what conditions and circumstances your maintain ?

a. Seasonal fluctuation in sales [ ]

b. To meet future contingencies [ ]

c. Other ..... [ ]

8. If the cash balance of your organization exceeds minimum cash balance, do you organization makes any investment of excess cash balance ?

Yes [ ] No [ ]

9. If Yes, on which assets investment in made ?

a. Buy T-bill or other securities [ ]

b. Deposit at bank [ ]

c. Use in business expansion [ ]

d. Other ..... [ ]

10. What your organization will do if cash balance falls below its minimum cash balance ?

a. Sell of securities [ ]

b. Bank borrowing [ ]

c. Through inventory [ ]

d. Other ..... [ ]

11. Does your organization follow any specific method for cash collection ?

Yes [ ] No [ ]

12. What major problems your organization is currently facing while managing the cash ?

a. Excess cash balance [ ]

b. Inadequate cash balance [ ]

c. Problem of effective utilization of cash [ ]

d. Other ..... [ ]

13. Does your organization use any standard or certain methods or models for determining optimal cash balance.

Yes [ ] No [ ]

14. Do you have uniform terms of credit allowed to customers ?

Yes [ ] No [ ]

15. Do you have a policy of charging interest and delayed payments ?

Yes [ ] No [ ]

16. Does your organization offer cash discount to the customers for early payment ?

Yes [ ] No [ ]

17. To what extent does your organization take advantage of cash discount offered by bank arrangement ?

a. Always [ ]

b. Sometimes [ ]

c. Rarely [ ]

d. Never [ ]

18. Is your organization able to discharge all short term liabilities on due dates ?

Yes [ ] No [ ]

19. What are your suggestions to improve cash collection system ?

a. initiate compromise [ ]

b. Charging higher rate of interest [ ]

c. Seek the health of collection [ ]

d. Any other ..... [ ]

Appendix-2

Hulas steel Industries Pvt. Ltd, kathmandu

Balance sheet as at 31st Asadh 206 31st Ashad 2065

Appendix 5

Analysis of Dispersion in Cash and Bank Balance

(Rs in million)

Fiscal Year	Cash and Bank (X)	$(X - \overline{X})$	$(X - \overline{X})^2$
2061-62	11.45	1.52	2.31
2062-63	9.71	-0.22	0.05
2063-64	7.57	-2.36	5.57
2064-65	6.61	-3.32	11.02
2065-66	14.31	4.38	19.18
Total	49.66		30.13
N=5			

Mean $(\overline{X}) = \frac{X}{N} = \frac{49.65}{5} = 9.93$

Standard deviation = $\sqrt{\frac{1}{N}} \quad (X Z \overline{X})^2$

$= \sqrt{\frac{38.13}{5}}$

Rs. 2.76 million

Coefficient of variation (CV) = $\frac{Z\exists}{\overline{\overline{X}}}$

$= \frac{2.76}{9.39} x100$

= 27.80%

Appendix 6

Fitting Years, Based on its Past Trend Square Method for Variations in Cash Balance

Fiscal year	(Y) Cash and Bank	(X) Deviation from (2063-64)	XY	X^2
2061-62	11.45	-2	-22.90	4
2062-63	9.71	-1	-9.71	1
2063-64	7.57	0	0	0
2064-65	6.61	1	6.61	1
2065-66	14.31	2	28.62	4
Total	$\Sigma Y = 49.65$	$\Sigma X = 0$	$\Sigma XY = 2.62$	$\Sigma X^2 = 10$

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

Here, $a = \frac{\phi Y}{N} X \frac{49.65}{5} X 9.93$

$b = \frac{\phi XY}{\phi X^2} X \frac{2.62}{10} X 0.26$

$Y_c = a + bx$

$= 9.93 + 0.28X$

Table 7

Analysis of Karl Pearson's Coefficient of Correlation between Sales and Cash Balance

(Rs in Million)

Fiscal year	Sales (X)	Cash Balance (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	1917.77	11.45	114.81	1.52	174.51	13181.34	2.31
2062-63	1760.45	9.71	-42.51	-0.22	9.35	1807.10	0.05
2063-64	1781.87	7.57	-21.09	49.77	49.77	444.79	5.57
2064-65	1843.41	6.61	40.45	-134.29	-164.29	1636.20	11.02
2065-66	1711.30	14.31	-91.66	-4.38	-401.47	8401.56	19.18
Total	ΣX=9014.80	49.65			-302.13	25470.99	38.13

Mean $\overline{X} = \frac{\phi X}{N} = \frac{9014.80}{5} = 1802.96$

Mean $\overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$

Karl Pearson's correlation (r) = $\frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$

$$= \frac{Z302.13}{\sqrt{(25470.99)(38.13)}}$$

$$= -0.306$$

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

$$= \frac{0.6745\sum Z(r^2)}{\sqrt{5}}$$

$$= 0.2734$$

$6 \mid P.E = 6 \mid 0.2734 = 1.640$

Appendix 8

Analysis of Karl Pearson's Coefficient of Correlation Between Account Receivable and Cash Balance

Fiscal year	Receivable(X)	Cash (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	236.49	11.45	-186.94	1.52	-284.15	34946.56	2.31
2062-63	246.50	9.71	-176.93	-0.22	38.92	31304.22	0.05
2063-64	240.89	7.57	-182.54	-2.3	430.79	33320.85	5.57
2064-65	1021.34	6.61	597.91	-3.32	-1985.06	357496.36	11.02
2065-66	371.93	14.31	-51.50	4.38	-225.57	262.25	19.18
Total	Σ= 2117.15	49.65			-2025.07	459720.24	38.13

Mean $\overline{X} X\frac{\phi X}{N} X\frac{2117.15}{5} X 423.43$

Mean $\overline{Y} X\frac{\phi Y}{N} X\frac{49.65}{5} X 9.93$

Karl Pearson's correlation (r) = $\frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$

$$= \frac{Z\,2025.07}{\sqrt{(459720.24)\,(38.13)}} \qquad = -0.4836$$

Now, Calculation of probable error (P.E)

$$P.E = \frac{0.6745 \int 1\, Z \left| r^2 \right| A}{\sqrt{N}}$$

$$= \frac{0.6745 \int 1\, Z 0.4836^2 A}{\sqrt{5}} \qquad = 0.2311$$

$$6PE = 6 \left| 0.2311 = 1.3866 \right.$$

Appendix 9

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)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	959.99	11.45	-145.49	1.52	-221.14	21167.34	2.31
2062-63	831.19	9.71	-274.29	-0.22	60.34	75235.00	0.05
2063-64	1029.17	7.57	-76.31	-2.3	180.09	5823.21	5.57
2064-65	1027.96	6.61	-77.52	-3.32	257.37	6009.35	11.02
2065-66	1679.69	14.31	573.61	4.38	2412.41	329028.43	19.18
Total	5527.40	49.65			2789.07	437263.33	38.13

Mean $\overline{X} = \frac{\phi X}{N} = \frac{552740}{5} = 110548$

Mean $\overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$

Karl Pearson's correlation (r) $= \frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$

$$= \frac{2789.07}{\sqrt{(43726.33)(38.13)}}$$

$$= 0.6830$$

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

$$= \frac{0.6745\sqrt{1-Z0.6830^2}}{\sqrt{5}} \qquad = 0.1609$$

$$6PE = 6 \mid 0.1609 = 0.9656$$

Appendix 10

Analysis of Karl Pearson's Coefficient of Correlation (r)

between Current Liabilities and Cash Balance

(Rs in million)

Fiscal year	Current Assets(X)	Cash (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	362.80	11.45	-302.89	1.52	-460.39	91742.35	2.31
2062-63	336.45	9.71	-329.24	0.22	72.43	108398.98	0.05
2063-64	826.02	7.57	160.33	-2.3	-378.38	25705.71	11.02
2064-65	754.88	6.61	89.19	-3.32	-296.11	7954.86	19.18
2065-66	1048.31	14.31	382.62	4.38	1675.87	146398.06	-
Total	3328.46	4965			613.42	380199.96	38.13

$$\text{Mean } \overline{X} = \frac{\phi X}{N} = \frac{3328.46}{5} = 665.69$$

$$\text{Mean } \overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$$

$$\text{Karl Pearson's correlation (r)} = \frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$$

$$= \frac{6.13.43}{\sqrt{(380199.96)\,(38.13)}}$$

$$= 0.1611$$

Calculation of probable error (P.E)

Probable error (P.E) = $\frac{0.6745\sqrt{\Sigma r^2}}{\sqrt{N}} = \frac{0.6745\sqrt{\Sigma 0.1611^2}}{\sqrt{5}} = 0.2938$

$$6PE = 6 \mid 0.2938 = 1.7629$$

Appendix 11

Analysis of Karl Pearson's of Coefficient of Correlation (r) between Net Profit of after Tax and Cash Balance

(Rs in Million)

Fiscal year	Net profit (X)	Cash (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	54.01	11.45	17.62	1.52	26.78	310.46	2.31
2062-63	74.96	9.71	38.57	-0.22	-8.48	1487.64	0.05
2063-64	25.52	7.57	-10.87	-2.3	25.65	18.16	5.57
2064-65	12.65	6.61	-23.74	-3.32	78.82	563.58	11.02
2065-66	14.85	14.31	-21.54	4.38	-94.34	463.97	19.18
Total	181.99	49.65			28.43		38.13

Mean $\overline{X} = \frac{\phi X}{N} = \frac{181.99}{5} = 36.39$

Mean $\overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$

Karl Pearson's correlation (r) $= \frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}} = \frac{28.43}{\sqrt{(2943.81)(38.13)}} = 0.0848$

Probable error (P.E) = $\frac{0.6745\sum Z r^2}{\sqrt{N}} = \frac{0.6745\sum Z 0.0848^2}{\sqrt{5}} = 0.2995$

$6PE = 6 \times 0.2995 = 1.7968$

Statement	31.03-2061		31-03-2062		31-03-2063		31-03-2064		31-03-2065	
1. Application of fund										
2. Fixed Assets										
Net Block		305.55		325.36		312.27		306.74		284.08
Capital work in progress		35.96		2.40		0.26		409.61		0.29
2. Investment		163.36		211.11		239.76		267.26		267.70
3. Current Assets										
Inventories	560.09		433.62		593.90		662.78		1022.80	
Sundry Debtors	286.49		246.50		240.89		280.78		266.75	
Cash at Bank Balance	11.45		9.71		7.56		6.61		14.31	
other current Assets	11.00		14.43		13.77		13.40		12.19	
loan and advance	140.93		126.92		173.02		64.36		92.97	
Total Current Assets	959.99		831.19		1059.17		1027.96		1409.04	
5. Total current liabilities	362.80		592.43		826.01		7740.97		1048.30	
6.Net current Assets		597.19		238.75		203.15		252.98		360.73
7. Missceuanceus Expenditure		4.23		2.89		4.02		2.01		2.34
Total		11.6.31		780.54		759.49		829.42		91.16
sources of funds										
1. Share capital	188.47		188.47		188.47		188.47		188.47	
2. share application money	2.52		2.52		2.52		2.52		2.52	

Appendix- 3

Hulas steel Industries Pvt. Ltd, Kathmandu

Profit and Loss Account for the year ended 31st Asahed 2061-31st Asadh 2062

Statement	31.03-2061	31-03-2062	31-03-2063	31-03-2064	31-03-2065
Income					
sales	1917.77	1760.45	1787.87	1843.41	1711.29
Resalable sales	23.84	23.55	23.02	22.368	29.45
other income	-	0.15	0.50	1.44	1.80
profit (loss) on sale of assets	0.92	(0.01)	-	0.05	1.34
Profit (loss) on exchange	0.42	0.05	(0.08)	(0.07)	(0.18)
Total	1942.96	1784.19	1805.31	1867.22	1743.73
less -cost of goods sold	1626.64	1435.66	1548.87	1620.13	1496.51
Gross profit	316.79	348.52	256.43	247.09	247.22
Less-indirect expenses	63.79	81.68	75.59	71.82	73.17
Branch indirect expenses	25.32	32.02	29.61	32.50	26.20
profit before interest and Dep^{n}	227.19	234.81	151.22	142.75	147.83
Less interest	89.04	73.01	74.31	77.65	92.73
	138.15	161.79	76.91	65.10	55.09
less Dep^{n}	42.61	59.19	39.72	36.56	34.41

Net operating profit	95.53	102.60	37.25	27.16	20.68
housing (5%)	4.77	5.13	1.86	-	-
Balance	90.76	97.47	35.39	27.16	20.68
provision for bonus (10%)	9.07	9.74	3.53	2.71	1.84
profit before tax	9.07	9.74	3.53	2.71	1.84
Tax provision for the year	15.00	17.50	6.32	5.15	3.97
for earlier year	11.05	-	-	7.50	-
profit earned to Appropriate account	55.18	70.22	25.52	11.80	14.85
Appropriate account					
profit (loss) brought forward from last year	10.26	6.11	9.69	35.12	43.87
Dividend/Interest on Investment	1.18	1.18	1.18	0.85	0.85
Total	11.43	7.28	10.86	35.97	44.72
profit for the period	55.18	7022	25.52	11.80	14.85
Total	66.62	77.51	36.39	47.77	59.58
provision for doubtful debts	-	2.50	1.00	3.72	-
Asdjustment related to previous year (+/-)	1088.29	0.03	0.26	0.16	0.64
proposed dividend	9.42	9.42	-	-	-
Transfer to General Reserve	50.00	55.86	-	-	-

	60.51	67.82	1.26	3.89	0.64
profit surplus carried forward	6.11	9.69	35.12	43.87	58.93

Appendix-4

Products of Hulas Steel Industries Pvt. Ltd

No.	Product	purpose
1.	Galvanized and Black steel pipes	For ordinary use in water, gas, air and steam lines
2.	HIPCO structural Pipes	For making welded stretchers, towers, poles etc
3.	Commercial quality pipe	From mechanical and general engineering purposed
4.	Black steeel easing pipe and slotted pipe	For water well
5.	Round Tubes	For Furniture, Conducts, bicycle earthing
6.	Square Hollow Section	
7.	Rectangular Hollow Section	
8.	Angles (Equal)	
9.	Light channel	
10.	Light Gange steel lipped channel	
11.	Lipped Zed Section	

12.	Door window profile	
13.	Rolling suutter profile	
14.	Galvanized sheets	22. engineering Design & Drawing
15.	Colour coated sheet	
16.	steel poles & pole Accessories	
17.	Steel Towers	
18.	Steel Bridge	
19	Suspeusion Bridge	
20.	G.I Pipe Fittings and other castings	
21.	Steel Tuss & pre Engineering Buildings	

Appendix 5

Analysis of Dispersion in Cash and Bank Balance

(Rs in million)

Fiscal Year	Cash and Bank (X)	$(X - \bar{X})$	$(X - \bar{X})^2$
2061-62	11.45	1.52	2.31
2062-63	9.71	-0.22	0.05
2063-64	7.57	-2.36	5.57
2064-65	6.61	-3.32	11.02
2065-66	14.31	4.38	19.18
Total	49.66		30.13
N=5			

Mean $(\bar{X}) = \frac{X}{N} = \frac{49.65}{5} = 9.93$

Standard deviation $= \sqrt{\frac{1}{N}} (X Z \bar{X})^2$

$= \sqrt{\frac{38.13}{5}}$

Rs. 2.76 million

Coefficient of variation (CV) = $\frac{Z\exists}{\overline{X}}$

$= \frac{2.76}{9.39} x100$

= 27.80%

Appendix 6

Fitting Years, Based on its Past Trend Square Method for Variations in Cash Balance

Fiscal year	(Y) Cash and Bank	(X) Deviation from (2063-64)	XY	X^2
2061-62	11.45	-2	-22.90	4
2062-63	9.71	-1	-9.71	1
2063-64	7.57	0	0	0
2064-65	6.61	1	6.61	1
2065-66	14.31	2	28.62	4
Total	$\Sigma Y = 49.65$	$\Sigma X = 0$	$\Sigma XY = 2.62$	$\Sigma X^2 = 10$

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

Here, $a = \frac{\phi Y}{N} X \frac{49.65}{5} X 9.93$

$b = \frac{\phi XY}{\phi X^2} X \frac{2.62}{10} X 0.26$

$Y_c = a + bx$

$= 9.93 + 0.28X$

Table 7

Analysis of Karl Pearson's Coefficient of Correlation between Sales and Cash Balance

(Rs in Million)

Fiscal year	Sales (X)	Cash Balance (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	1917.77	11.45	114.81	1.52	174.51	13181.34	2.31
2062-63	1760.45	9.71	-42.51	-0.22	9.35	1807.10	0.05
2063-64	1781.87	7.57	-21.09	49.77	49.77	444.79	5.57
2064-65	1843.41	6.61	40.45	-134.29	-164.29	1636.20	11.02
2065-66	1711.30	14.31	-91.66	-4.38	-401.47	8401.56	19.18
Total	ΣX=9014.80	49.65			-302.13	25470.99	38.13

Mean $\overline{X} = \frac{\phi X}{N} = \frac{9014.80}{5} = 1802.96$

Mean $\overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$

Karl Pearson's correlation (r) = $\frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$

$$= \frac{Z302.13}{\sqrt{(25470.99)(38.13)}}$$

$$= -0.306$$

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

$$= \frac{0.6745\sum Z(r^2)}{\sqrt{5}}$$

$$= 0.2734$$

$6 \mid P.E = 6 \mid 0.2734 = 1.640$

Appendix 8

Analysis of Karl Pearson's Coefficient of Correlation Between Account Receivable and Cash Balance

Fiscal year	Receivable(X)	Cash (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	236.49	11.45	-186.94	1.52	-284.15	34946.56	2.31
2062-63	246.50	9.71	-176.93	-0.22	38.92	31304.22	0.05
2063-64	240.89	7.57	-182.54	-2.3	430.79	33320.85	5.57
2064-65	1021.34	6.61	597.91	-3.32	-1985.06	357496.36	11.02
2065-66	371.93	14.31	-51.50	4.38	-225.57	262.25	19.18
Total	Σ= 2117.15	49.65			-2025.07	459720.24	38.13

Mean $\overline{X} X\frac{\phi X}{N} X\frac{2117.15}{5} X 423.43$

Mean $\overline{Y} X\frac{\phi Y}{N} X\frac{49.65}{5} X 9.93$

Karl Pearson's correlation (r) = $\frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$

$$= \frac{Z\,2025.07}{\sqrt{(459720.24)\,(38.13)}} \qquad = -0.4836$$

Now, Calculation of probable error (P.E)

$$P.E = \frac{0.6745 \int 1\, Z \left| r^2 \right| A}{\sqrt{N}}$$

$$= \frac{0.6745 \int 1\, Z 0.4836^2 A}{\sqrt{5}} \qquad = 0.2311$$

$$6PE = 6 \left| 0.2311 = 1.3866 \right.$$

Appendix 9

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)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	959.99	11.45	-145.49	1.52	-221.14	21167.34	2.31
2062-63	831.19	9.71	-274.29	-0.22	60.34	75235.00	0.05
2063-64	1029.17	7.57	-76.31	-2.3	180.09	5823.21	5.57
2064-65	1027.96	6.61	-77.52	-3.32	257.37	6009.35	11.02
2065-66	1679.69	14.31	573.61	4.38	2412.41	329028.43	19.18
Total	5527.40	49.65			2789.07	437263.33	38.13

Mean $\overline{X} = \frac{\phi X}{N} = \frac{552740}{5} = 110548$

Mean $\overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$

Karl Pearson's correlation (r) $= \frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$

$$= \frac{2789.07}{\sqrt{(43726.33)(38.13)}}$$

$$= 0.6830$$

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

$$= \frac{0.6745\sqrt{1-Z0.6830^2}}{\sqrt{5}} \qquad = 0.1609$$

$$6PE = 6 \mid 0.1609 = 0.9656$$

Appendix 10

Analysis of Karl Pearson's Coefficient of Correlation (r)

between Current Liabilities and Cash Balance

(Rs in million)

Fiscal year	Current Assets(X)	Cash (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	362.80	11.45	-302.89	1.52	-460.39	91742.35	2.31
2062-63	336.45	9.71	-329.24	0.22	72.43	108398.98	0.05
2063-64	826.02	7.57	160.33	-2.3	-378.38	25705.71	11.02
2064-65	754.88	6.61	89.19	-3.32	-296.11	7954.86	19.18
2065-66	1048.31	14.31	382.62	4.38	1675.87	146398.06	-
Total	3328.46	4965			613.42	380199.96	38.13

$$\text{Mean } \overline{X} = \frac{\phi X}{N} = \frac{3328.46}{5} = 665.69$$

$$\text{Mean } \overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$$

$$\text{Karl Pearson's correlation (r)} = \frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}}$$

$$= \frac{6.13.43}{\sqrt{(380199.96)\,(38.13)}}$$

$$= 0.1611$$

Calculation of probable error (P.E)

Probable error (P.E) = $\frac{0.6745\sqrt{\Sigma r^2}}{\sqrt{N}} = \frac{0.6745\sqrt{\Sigma 0.1611^2}}{\sqrt{5}} = 0.2938$

$$6PE = 6 \mid 0.2938 = 1.7629$$

Appendix 11

Analysis of Karl Pearson's of Coefficient of Correlation (r) between Net Profit of after Tax and Cash Balance

(Rs in Million)

Fiscal year	Net profit (X)	Cash (Y)	$(X-\overline{X})$ (μ)	$(Y-\overline{Y})$ (V)	μV	μ^2	V^2
2061-62	54.01	11.45	17.62	1.52	26.78	310.46	2.31
2062-63	74.96	9.71	38.57	-0.22	-8.48	1487.64	0.05
2063-64	25.52	7.57	-10.87	-2.3	25.65	18.16	5.57
2064-65	12.65	6.61	-23.74	-3.32	78.82	563.58	11.02
2065-66	14.85	14.31	-21.54	4.38	-94.34	463.97	19.18
Total	181.99	49.65			28.43		38.13

Mean $\overline{X} = \frac{\phi X}{N} = \frac{181.99}{5} = 36.39$

Mean $\overline{X} = \frac{\phi Y}{N} = \frac{49.65}{5} = 9.93$

Karl Pearson's correlation (r) $= \frac{\phi \Uparrow V}{\sqrt{\phi \Uparrow^2 . \phi v^2}} = \frac{28.43}{\sqrt{(2943.81)(38.13)}} = 0.0848$

Probable error (P.E) = $\frac{0.6745\sum Z r^2}{\sqrt{N}} = \frac{0.6745\sum Z 0.0848^2}{\sqrt{5}} = 0.2995$

$6PE = 6 \times 0.2995 = 1.7968$