A STUDY ON CASH MANAGEMENT INFORMATION SYSTEM OF DAIRY DEVELOPMENT CORPORATION

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A Thesis Submitted To:

Office of the Dean

Faculty of Management

Tribhuvan University

In partial fulfillment of the requirements of the degree of

Masters of Business Studies (M.B.S.)

Kathmandu, Nepal

2012

Tribhuvan Multiple Campus

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It is forwarded for examination. I recommended this thesis for approval as acceptance.

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Acknowledgement

To day, I am very pleased to present by self to complete this dissertation work as a partial fulfillment of the requirement for master of business studies. An accomplishment of this dissertation reflected a tremendous sense of freedom to me and in other hand; completion of this thesis encouraged me to undertake new ventures or original researchers in the field of financial literature. In the very outset, I would like to express my heartiest gratitude and sincere thanks to my thesis advisor, **Mr. Bishnu Hari Koiral** Associate Professor of Central Development of Management. For his valuable guidance who generously took time out from his own very busy schedule and continual stream of creative suggestions and aspiratory encouragement that made it possible to complete this thesis in this form on time similarly.

I am grateful to the manager and the credit department's staffs of all the six commercial banks for their support by providing necessary data, information and valuable time during the study period.

I am indebted to those writers and researchers whose materials and methods have been taken during the research work and for their valuable suggestions.

I would like to express my special gratefulness to my parents and family members for their continuous support and inspiration.

Date: ………………　　　　　　　　　　　　**Keshab Ghimire**

Researcher

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LIST OF ABBREVIATIONS &SYMBOLS

A.C.P	-	Average Collection Period
C.A	-	Current assets
Co.	-	Company
C.L	-	current liability
Contd.	-	Continued
D.D.C	-	Dairy Development Corporation
D.T.C	-	Depository Transfer Cheque
e.g.	-	For example
E.D.T.C	-	Electronic Depository Transfer Cheque
ed	-	Edition
E.D.I	-	Electronic Data Interchange
E.O.Q	-	Economic Order quantity
Es	-	Enterprises
et al	-	And other
etc.	-	et- cetera
F.O.M	-	Faculty of Management
F.Y	-	Fiscal year
G.D.P	-	Gross domestic product
Ibid	-	in the same work
Ltd.	-	Limited
mgmt.	-	Management
No.	-	Number
N.P.A.T	-	Net Profit after tax
Rs.	-	Rupees
S.N	-	Serial Number
T.A	-	Total assets
Viz.	-	Namely
Vs	-	Verses

CHAPTER ONE

INTRODUCTION

1.1 Background

Nepal, a geographically small country with 147.181 sq. km. physical area, is characterized by its land-locked position and the extremes of its physiographic and characterized by its land-locked position and the extremes of its physiographic and ecological features. Physiographically, the country is divided into three parallel belts viz. Terai, Hill and mountain from south to north with distinct topographical and climatic features. These features have adversely affected transportation and communication network. Dissemination of feedback reports and collection of data from rural, mountainous region as PLAN's program units & branches is delayed by taking substantial amount of time. Almost all the service institutions located in those regions failed to submit their reports in expected time and that hampered in the processing and compiling of data at the central level. It is also noted that some fill-out the records with many errors due to the lack of proper monitoring and supervision. Ever-increasing problems created by political imbalance and criminal assault in today's environment might affect this process of information collection & recording.

Regular supply of information is imperative to assess financial needs in the country's geographical area for the development of disabled and deprived children, their families and communities and promotion of educational yield and to provide efficient social services to its users. The ultimate objective of MIS is to supply timely, complete, regular, reliable and valid data to improve the quality of development and social services. The decision makers and manager at different levels should use information collected in planning, monitoring and performance review. The MIS should also provide information for formulation of policy, strategy and operational management.

Supply of record keeping and reporting forms and collection of recorded data have been delayed by talking substantial amount of time. Therefore, Brach offices have difficulty to submit their reports in expected time. MIS reporting status was not so praiseworthy in rural areas due to less infrastructures facilities available at the place.

The managers at different levels are able to prepare their future work proposal/ plan by using information. They can also make comparison of financial status and program activities over the time and place. Information relating to impact, coverage, and trend over time and costs are necessary for the central level planners as well as decision makers at different levels. Accurately collected and properly compiled data are necessary for the planner to monitor the progress and decision-making. The planners, information mainly for the following specific purpose to:

- Improve quality for service to the clients,
- Assess program towards setting goals and targets,
- Manage services more effectively through improved planned, more efficient use of resources and systematic monitoring of progress performance;
- Enable senior managers to develop appropriate planning and policy guidelines;
- Measure the impact of the program and modify the program based on the results.

Capacity building in formulation and planning program monitoring and performanance review for lower level managers is crucial to achieve better results. Therefore, dissemination of information and feeding the analysis results back to supervision, branch and sub-branch level decision maker ultimately allow the program to go ahead in an informed transparent and decentralized way. As implied by the bottom up approach information and / or analysis result for organization or any other sectors are equally necessary for the lower level decision makers.

As it is depicted earlier, management information system plays a crucial role in today's contemporary organizations. It helps in collecting information's related to the problems whatever created in societies for effective decision-making. Application of computer n today's organizations has made this work easier. And the manager can able to give decision quickly. Poverty is pervasive in Nepal. In order to alleviate poverty from the disadvantageous area of the country, many INGOs, GOs and social organizations are acting with an ever-growing effort. The broad and networks of PLAN are also arranged in such a way that may influence every deprived children and people from the disadvantageous area to work together and develop the nation. Access to E-mail and the Internet within the country is expanding and is widespread in donor countries. This provides PLAN with the opportunity to optimize the use of technology to support its programs and communications between children, communities and sponsors.

The Cash management has better been termed as management of money position or assets. One of the function investments in cash is to meet operational requirement in day -to -day business. A business firm has to go on incurring small expenses and for that purpose Petty cash is necessary (Koirala and Pardhan, 1982).

At first, Keynes (1936) described the need of money for business, he described there is three primary motives for holding cash; transaction motives; speculative motives and precautionary motives. Now compensating motives also included in primary needs of cash (Pandey, 1999: 911).

Cash includes coins, paper currency, other negotiable instruments and book entry of commercial bank, deposit saving and other certificates deposit, bank Cheques post office or other money orders, drafts, cashier and letters of credits and very quick changeable securities (Carmicahel and etal, 1991).

In financial sense cash management refers to all money items and sources that are immediately available to help pay a high liquid securities are treated into cash (Hampton. 1990)

Basically cash management includes planning and cash policies. Cash planning involves the formulating of cash policies resulting for normal and abnormal requirement. While, the proportion of corporate assets held in the form of cash is very small of ten between 1 to 3 percent. So, its efficient management is crucial to the solvency of the business because in a very important sense, cash is the focal point of fund flows in a business. In view of its importance, it is generally reflected to as the life blood of a business enterprise. Cash is therefore aptly described as the oil to lubricate the ever turning wheels of business; without it the process grinds to a stop.

Cash management took on increased importance in the 1970s. When the high level of interest rate on short term investment raised the opportunity cost of holding cash balance even with lower rates, managing cash will remain important given the active market for take over (western & Copland, 1999). Cash management involves managing the monies of the firm in order to maximize cash availability & interest income on any idle funds (Van horn, 1991). Cash is basic input needed to keep the business running on continues basis. It is also the ultimate output expected to be realized by selling the service or product manufacture by the firm.

The firm should be keep sufficient cash, neither more nor less. Cash shortage will disrupt the firms manufacturing operations while excessive cash will simply remain idle without contributing anything towards the firm's profitability. Thus a major function of the financial manager is to maintain a sound cash position.

Basically cash management is concerned with the managing following areas (Chandra 1994:282).

- Cash budgeting
- Long term cash forecasting
- Monitoring and control
- Investment of surplus funds

Financial manger, therefore, have developed and techniques of cash collection and disbursement enabling them to optimize the availability of funds and to reduce the interest cost of outside financing (Weston and Copland, 1989). Closely allied with the cash management function is the management of marketable securities, the portfolio of high liquid, near cash assets that serves as a back up to the cash account.

For managing the cash, cash forecasting and budgeting is the first and key tool. The cash budget tells up the likely availability of cash with respect of both timing and magnitude (Van Horn, 1991). In other words, it tells us how much we are likely to have when and for how long. Thus cash budget serves as a cash planning and control. Smooth flow of cash is geared with capital planning and control and other functions of business. The smoother and more repaid the flow of funds the more efficient is each rupee of working capital from the proper management of cash we can take advantages are following (Western and Copland, 1989).

- Taking Trade discount
- Special cash given to the supplies
- To work smoothly an emergency period
- Purchase goods from supplies

For the manufacturing and non-manufacturing companies both need cash and cash is very crucial part. Manufacturing means covering raw materials to a complete product by mechanical, electronic or chemical process. The emphasis of this study is on manufacturing companies mainly Dairy Development Corporation, Lainchour. This corporation collects milk from milk producer and produces different kind of dairy products and supplies fresh milk and milk product to domestic and international consumers.

(i) General Background of Public Enterprises:

Today the government is not involved actively and directly setting up and management of economic and industrial enterprise. It is widely accepted now that the economic development of a country is directly related with its industrial growth. Expansion of industries leads to greater utilization of natural resources, production of goods and services, creation of employment opportunities and improvement of general standard of living. The doctrine of public sector emphasis on the principle of welfare state, where each and every activity of the government is expected to safeguard to promote interest of public.

For this, the state has to come forward to control and manage the national resources in public interest. This objective can be achieved either through intervention or an entrepreneurship.

Intervention affects the existing system of private sector while public sector is the outcome of state entrepreneurship. There can be several motives that influence the growth of state enterprise, political ideology. State of economy development and defense being prominent among the factor concerned. Public sector and private sector are generally taken as to mutually exclusive sectors of economy. But both are in reality, indispensable basis for growth and development. In fact, these are two wheels of the economy where in the public sector provides the base for development of private sector. Public sector and private sector both from integral parts of the national economy. The economy of Nepal is basically parts of the national economy. The economy of Nepal is basically a mixed economy. Where the public and the private sector both sector operate freely in business except in case of defense. Public sector denotes a part of the government setup. Its budget gets incorporated with the government budget there by allowing it to get funds from the government and hence it is required to deposit all its income in government treasury. The objectives of PES in Nepal have greatly facilitated economic growth in spite of the problems of capital investment log gestation period, low profitability and high risk. The government use PES for implementing their policies, tools for short term political benefits, creation of employment opportunities, economic and social developments to fill the gap in private capital, take over gain projects, price control, public welfare and national self presentation etc in this way we can say that public enterprises have contributed through various means in the development process of the country.

(ii) Introduction of Dairy Development Corporation

First five year plan was stressed upon the need of development modern dairy industry in public sector. The dairy development commission was formed in 1955 A.D. The dairy development sector was established in year 2010/011. As the demand of milk and milk product were gradually increasing. It was left necessary improvement of Dairy Development centre. As a result of dairy development centre was at Bhotahity on the same year 2010/11. This center started to distribute the collected milk with processed to the urban people in Kathmandu. The demand of milk and milk product has been increasing day by day. Due to the inadequacy of space this center was shifted to Lainchour. In the space this centre dairy development commission was constituted to guide the dairy development commission was constituted to guide the dairy development section. At that time dairy expert were provided by Swiss association for technical assistance. The dairy development commission had been converted in to dairy development board in 2009.

The main objectives of the corporation are to provide guaranteed market and fair price to the rural milk producers and to supply hygienic pasteurized milk and there standard dairy products to the urban consumers. Prior to the establishment of the corporation a separate dairy development board was constituted to carry out the task of dairy development in wider scale. The dairy development activities in Nepal started in Tusal village of Kavre district in B.S. 2009 on experimental basis with small scale milk processing plant under the department of agriculture. In the year B.S 2010/2011 at the initiative of Dairy Development Board, the central dairy plant was established and starts milk collection processing and marketing activities from the year B.S 2014. The third year plan to provide potential market to the farmer. Who are for distance and remote areas to supply the homogenized and pasteurized milk and other milk products to the consumer of urban area and to ensure the improvement of life style of farmer Dairy Development Corporation is totally owned by government. It is also financing supported by the foreign grants and loans at a rate of interest. World food program

(WEP) has supporting DDC since 2030/031. The New Zealand and Danish Government had contributed toward the establishment or milk processing plants.

At present USAID and Danish government are the major donors. Dairy Development Corporation provides quantitative milk and milk product to the consumer at national level. The Demand of milk is increasing day by day because of high quality and hygienic Dairy development Corporation buys milk at a reasonable price. Before established dairy development corporation, there is no potential market to the former. To provide reasonable price to the milk producer of rural side an also availability of pasteurized milk the consumers to fulfill these objectives the Dairy development Corporation has been working from it's set up. The condition of farmers will improve if the gate adequate price of milk at one side of the Dairy Development Corporation will continue is efforts to supply increasing demand of milk to the consumers of urban area. The demand of milk is increasing order because of rapid increase in population, the Dairy development Corporation is trying to collect milk occupation attractive the Dairy development Corporation has expended its branch offices indifferent parts of the country such as Kathmandu, Heauda Pokhara, Lumbini.

The objective of branch offices and projects is to provide suitable price of milk produces of the people of rural area and also make than easier to sell milk. There should be co-ordination between milk production and the demand of milk due to backward economy.

Nepalese farmers engaged in livestock farming customarily as a secondary occupation. To make full use of their skill, it was decided to set up a modern dairy industry so as also to provide the farmer with a secondary source of income recognizing its importance and prospects in the country. The following programmes were decided to be under taken during the first plan period.

- To set up milk collection centers in Kathmandu valley
- To set up sales depots for selling only hygienic milk
- To set up cheese manufacturing units in hilly regions.
- To set up Ghee processing units at important place in Terai region etc.

Some Objectives of this Corporation are as Follows

1. Supply pasteurized milk and milk products to urban and rural consumers.
2. To provide a guaranteed market for milk to the rural formers with fair price.
3. Development an organized marketing system fro milk products in urban area.
4. Development and organized milk collection system to meet increasing demand for pasteurized milk and milk product.
5. Bring improvement in production: processing, preserving sales and distribution of milk and milk production in modern and scientific way, while keeping in view the goals of promoting national welfare maintaining production incentive to farmers and preserving consumer's health.

For the fulfillment of this objectives of Dairy development Corporation should run according to its memorandum of association, is to bring about necessary improvement in the production collection, processing preservation, sales and distribution of milk and milk products in a modern and scientific way, while keeping in view the goals of promoting national welfare, maintaining production incentive to farmers and preserving consumers health.

1.2 Statement of the Problem

This corporation collects milk from product different area and produces some kinds of milk products for its local market and supply rest of all milk and milk product for international market. It has too many problems due to lack of capacity.

There are many studies about cash management Baumol (1952). Tobin (1956), Mettrer (1963), Miller and Orr (1966) white and Norman (1965), Naidiri (1969), Orgler (1970) and others are studied various aspects of cash management. In the context of Nepal only, the study by Pradhan and Koirala (1982). Viewed that cash is affected collection and disbursement policy. They also added that the optimum level of cash is the function of opportunity cost and transaction cost. More cash balance held by the firm means high opportunity cost and low transaction cost or vice versa. Other studies are Pradhan (1986). Shrestha (1987), Dangol (1987) Bajracharya (1990), Gautam (1999) on cash management and working capital management. However there is no recent study conducted in the field of cash management of public enterprises. Cash management plays vital role in management system of every manufacturing organization and non manufacturing organization. Milk is raw material, which should keep very carefully inventory management also plays vital role. This branch is facing some problem which is mentioned below:

- Lack of excess capacity or lack of powder plant.
- Increasing transportation cost and strake.
- Sudden change of monitory policy by the Government can hamper the profit of the firm.
- National and international political issue can disrupt the running condition of the firm.
- Due to lack of adequate price of milk and milk product the firm is facing another problem.

1.3 Focus of the Study

The focus of the study being on a critical examination of cash management technique of Dairy Development Corporation. The period covered by the study is ten year from 2051/052 to 2060/061. The present study of cash management is Dairy Development Corporation is the first of its kind.

1.4 Objectives of the Study

The main objective of the study is to examine cash management of public enterprises of Nepal on the basis of case study of Dairy development Corporation It focuses on the investment decision of the company and in particular the cash management in short run business operation of the firm, i.e. management of the individual current assets like cash receivables and inventory in short run. In other words, this study deals with the management of cash or near cash assets such as marketable securities and time deposits in banks following are the main objectives of the study:

- To determine the structure and utilization of cash.
- To Estimate of demand for cash from slope of regression.
- To study the overall scenario of Dairy development Corporation
- To examine the liquidity position of Dairy development Corporation To examine the exiting cash management practices in Dairy development Corporation

- To recommend proper suggestions on the basis of above analysis to improve the existing cash management for coming future.

1.5 Importance of Study

Cash management is a very significant tools and technique which can be used in project planning of any organization. It is the foremost need in cash planning which can not be ignored since it involves consideration of alternation course of action so as to synchronize cash flows with the liquidity position of the firm. Profit planning is an important part of overall planning process of an organization and cash management is a major function of the profit planning. As stated in ninth plan the financial situation of the government corporation as mater of fact is in a very poor condition. A part from other measure required improving their performance, Dairy Development Corporation may be expected to have been prospect with effectives cash management. The focus of the study being on critical examination of cash management technique of Dairy development Corporation.

1.6 Limitations of the Study

Cash management system of dairy development corporation is main concern of the study and the study evaluates the cash management system as well or not. In order to make a study an cash management more fruitful, it is essential that data weekly and monthly data cannot be obtained and due to this, the study has been force to use the annual data, which only published by related enterprises. As a student time and budgetary constraints can not be ignored. The study is depending upon secondary information. Study can not be covering all the manufacturing enterprises. The limitations of the study are as follows:

1. Dairy development Corporation has been chosen as sample from among various manufacturing public enterprises of the country.

- This study only to partial fulfillment of M.B.S.
- The study is mainly dependant on secondary data, covering data of past ten year only.
- This study is limited to cash management of Dairy development Corporation
- Financial ratio analysis and statistical tools have been used to analyze quantitatively.
- The related review of literature mainly based on the materials related to cash management of central library of T.U.

2. The study assumes that the impact of political factors of the country such as change in government, any sort of political involvement in the firm, if prevalent, has insignificant or no effect upon the financial decision.

1.7 Organization of the Study

This study has been organized in to five chapters.

Introduction

The first chapter is the introduction, which deals with the introduction of the study. This section includes a brief history of development of public enterprises in Nepal in the beginning and then introduction chapter state that the objectives, limitations and field of the study research methodology and duration of the study.

Review of the Literature

The second chapter deals with the review of literature relating to cash management which includes the reviews of relating previous writing and studies to find the existing gap. So, past studies in the cash management function as well as the public enterprises has been reviewed to find out what new can be contributed. Review of text books, dissertations and government publication and news paper have been included.

Research Methodology

The third chapter deals with the research methodology consisting research design, the population and sample nature and source of data and financial and statistical tools for the analysis of data.

Presentations and Analysis of Data

The fourth chapter is organized as a presentation and analysis of the research question on the basis of facts and figures gathered by different method. This is the core of the thesis. It consists of systematic presentation and analysis of financial statements employing financial and statistical tools.

Finding and Conclusion and Recommendation

This chapter or the lastly fifth chapter deals with the summary of the major findings and constraints and includes concrete suggestions and recommendation also will be presented by including bibliography and appendix. Reference or the bibliography consists of list of published or unpublished books, articles, dissertation etc. which have been the sources of information and used as references. Appendix consists of relevant materials, when are, however, not much with mentioning in the main body of the report, included are; P&L A/c and balance sheet.

In this way the chapter one to five will consist of introduction. Review of literature research methodology, presentation and analysis of data and summary, conclusion and recommendation.

CHAPTER TWO
REVIEW OF LITERATURE

2.1 Introduction

The review of the literature provides basic foundations to this study. The various approach employed in the studies are, in fact derived from the different surveyed in this part. This chapter clear that the history of cash management and its development of this study. The review of literature has been described in four sections. Part 1 describes the theoretical framework like the review of journals and review of Nepalese studies has been presented on part 2 and 3 respectively. In section 4 is denoted to concluding remark of the cash management.

Following were the literature reviewed for this thesis work.

(a) Review of textbooks

- Financial management by Khan, M.Y. & Jain P.K.
- Financial management and policy by James, C & Van, H.
- Advanced accounting by Jain S.P. & Narang, K.L.
- A study on inventory management in Royal Drugs Company Limited by Krishna Narayan Shrestha. etc.

2.2 Review of Text Books

2.2.1 Attributes of MIS

The study of information system has a long history in the cognitive psychology, engineering and more recently in management and its peripheral. Though it has emerged recently as a hot subject, lots of studies have been conducted in the short period. The main reason of popularity for this study is the world business environment that is varying time to time as well as the generation of variety of information due to increased work pressure. As organizations have grown larger since the beginning of industrial revolution, the necessity for formalized systems of information flow has risen in parallel. The information requirements for managers must be satisfied by a management tasks, management principles, individual manager's styles and behaviors, and organizational structure and behavior. Further, the nature of MIS design and the method of its implementation are reflected back by the members of the organization to impact manager and the functioning of the organization. A concept of MIS therefore requires foundation knowledge of management information theory, and the systems approach.

Management information systems are the connotation of three separate entities such as "Management", "Information", and "System". These entities are complicated in themselves however our efforts lie in stating what this enteritis is. The scope and purpose of MIS is understood if each part of the term is defined.

2.2.2 Evolution of MIS

The idea of an information system to support management and decision-making predates the use of computers, which have extended the organizational capabilities for implementing such a system. This extension of capabilities is so significant that MIS is new in the sense that it is now feasible. Many of the ideas, which are part of MIS evolved as part of other disciplines. Four major areas of concept and system development are especially significant in tracing the evolution of the MIS. Managerial Accounting, Management

Science, Management Theory, and Computer Processing. today. The capabilities of computer have added to the development of the MIS because new dimensions to be considered in conceptualizing the information system for an organization.

Managerial Accounting. The rise of large corporations in the late 1800s created a need for an information system larger and more complex than system designed for the fairly small enterprises existing prior to the time. Early efforts at managerial accounting concentrated on simple cost accounting and budgeting. The movement to business budgeting and cost control developed strength during the 1920 s and 1930s as per Mckinsey (1922). The simple cost computations of the early 1900s were often found lacking in term of management decision making. The 1930s and 1940s and 1940s saw theoretical work related to costs for decision making and the use of decision making models.

The reporting systems for organizations developed by managerial accountants have generally reflected the idea of responsibility (**Higgins, 1952**) and profitability accounting (**Byer and Trawicki, 1972**). In these approaches, each manager receives reports covering his/her responsibility. The reports then summarized and sent to top level management for making decision. The cost whatever is dealt by cost accountants creates proper environment for making decision, which is similar to the MIS concept of relevant information tailored to the use for which it is needed. In sum we can say that managerial accounting is an information system oriented toward internal management and control and is therefore identified with MIS.

Management science: Management science (or operations research) is the application of the scientific method and quantitative analysis technique to management problems. The manipulation of a model and the use of mathematical and statistical procedures in management science generally depend on the computer. May techniques, including simulation and linear programming, are essentially impractical without the computer.

Management science is an important development relative to computer based MIS because management science has developed procedure for the analysis and computer based solution of may types of decision problems. The systematic approach to problem solving, use of models, management science techniques, and computer based solution algorithms are generally incorporated in the MIS design.

Management Theory: Recent developments in management theory are significant in understanding the evolution of MIS. A number of management researchers have have concentrated on the behavioral and motivational consequences of organizational structure and systems within organization. these developments in management theory are important in MIS design because they aid in understanding the role of man machine systems and in developing decision models.

Computer Processing: Computers were not originally planned for information processing but this is now the major use to which they are applied.. These computer systems have been developed over 20 years between the use of first computer in 1947s and development of early management information systems in the late 1960s. Although an MISS was technologically feasible at a very high cost before 1965s, it is difficult to conceive of a large cost/effective MIS before that time.

Computer technology has been a major factor in including MIS development, but also a major inhibitor of progress. Without the capabilities of the computers, the MIS could not be implemented. the very existence of hardware and software capabilities induces their use in information system design. During the late sixties, the invention of first generation computer made professional associations some how active to performs MIS relater work for certain destination. The association system management (ASM) and the association for computing machinery (ACM), which were founded in 1947s performed work to advance the science and art of information processing including study design development construction application of modern machinery computing techniques, and programming software. In other hand they promoted the free exchange of ideas in the field of information processing in a professional manner, among both purpose of these organizations was to keep members abreast of rapid change and growth in the growth in the field of systems management and information processing.

In 1995s, when second generation computer came into existence number of software organization have been evolved. They were benefited a lot by the application and inherited the new way of MIS designation. The American federation of information processing societies (AFIPS) organized in 1961s established to represent member societies on an international basis and to advance and disseminate knowledge of the member societies. Similarly, in 1962s, data processing management association (DPMA) was chartered the objective of DPMA was to encourage high standard in the field of data processing and to promote a professional attitude among the organizations.

In the late seventies, the exploration of third generation computer brought a new technological revolution the field of MIS and its application. Introduction of minicomputer compatible system, and operating system on external storage media in this electronic data processing (EDP). With a view to serve persons concerned with all aspects of MIS in the electronic data processing industry including business system designers mangers and educators the society for management information system (SMIS) was established in 1968s. The main objective of this organization is to provide an exchange or marketplace for technical information about MIS and to enhance communication between MIS director and executives through wide range of computer use.

In early eighties, the institute for certification of computer professionals (ICCP) that was found in 1973s in working to produce competent computer professional designers providing them the knowledge and techniques relating to the uses of fourth generation computer and its output in organizational operations. The establishment of the ICCP was an outgrowth of studies made by committees of the DPMA and the certification programs including the certificate in data processing (CDP) knowledge and skills of computing personnel.

In Nepal central Bureau of statistics (CBS) hired second generation (IBM 1401) computer system from world trade corporation and used it for population census in 1961s. To meet ever increasing demands of computerization and computing needs of the country electronic data processing center (EDPC) was established as a separate organization under development committee act 2013 B.S (1974S) to manage utilize IBM 1401 computer system. Now a day third and fourth generation computer are extensively used by various organizations manufacturing companies in order to facilitate their operations. As we know there are may organizations that are using computers for record keeping and data processing but still there is the deficiency of MIS installation within them computer association of Nepal (CAN), which working today as a leading organization for IT installation in various sectors, quoted that the turnover in the industry including hardware education training services and software researched 35 million dollars in 2002s increasing from 23 million dolars.

Computer Based Information System

computer based information system is the developed from of primary management information system Jawadekar (2003) says that MIS which is popularly known as the information system the information and decision system the computer based information system takes part in handing of voluminous data fulfilling changing needs of the information complex processing of data and multidimensional analysis with wide application of computers today.

computer based information system which is so essential to study today signifies the technical aspects of computer that have added a whole new set of problems to the development of management information system. Computer are machine of arbitrary design they are difficult for the average user of MIS to understand. This means that the design and implementation of information systems featuring computer processing will be more difficult than the design of manual system. The explosion of information and the need to process large amounts data to extract small amounts of information have contributed to the increasing importance of CBIS.

Firm established an information services organization of information specialists to provide expertise in the development of computer based systems. These specialists include systems analysis database administrators, network specialists programmers and operators. During the past few year users have begun doing much of the work of the specialists a phenomenon called End User computing (EUCE).

According to Basandra (1999) the computer based information system is composed up of five applications areas. They are accounting information system management information system decision support systems, the virtual office and knowledge based system. in his view these all areas of application which is also termed as CBIS subsystem provide information for problem solving. A schematic model of CBIS, which represents all subsystem provide information for problem solving. A schematic model of CBIS, which represents all of its subsystems, is shown below in figure:

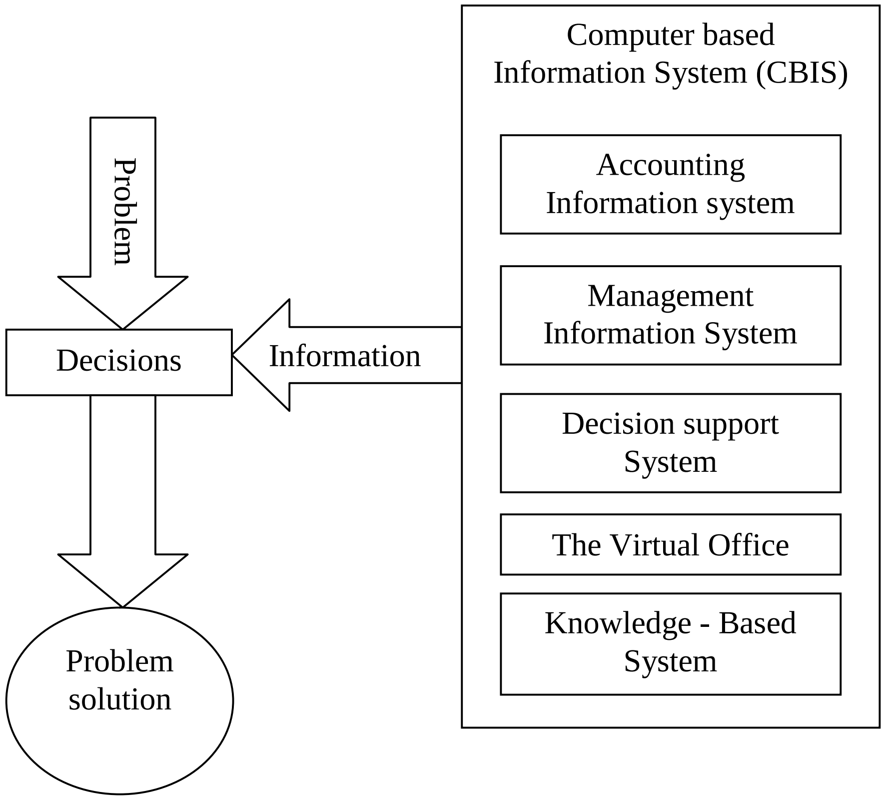


Fig 2.1: A Model of CBIS Subsystems

In addition to CBIS, we can review Lucas (1982) opinion. He says that a system process input that is provided by a user. The input is first edited for errors and corrected, if necessary, through manual intervention. The input becomes immediate output (a check) or is used to modify the files of the system. Later it is saved on a file and is used to update the system. After updating, the files correspond to the information kept in folders, file cabinets or notebook. Information may be retrieved from a file or modifying, adding data in the file may alter the file contents. Finally, output is produced in different formats and modes of presentation such as a printed report, a display on a television like screen, or a verbal response. His view pasteurizes the computer based information system, which is shown below in figure:

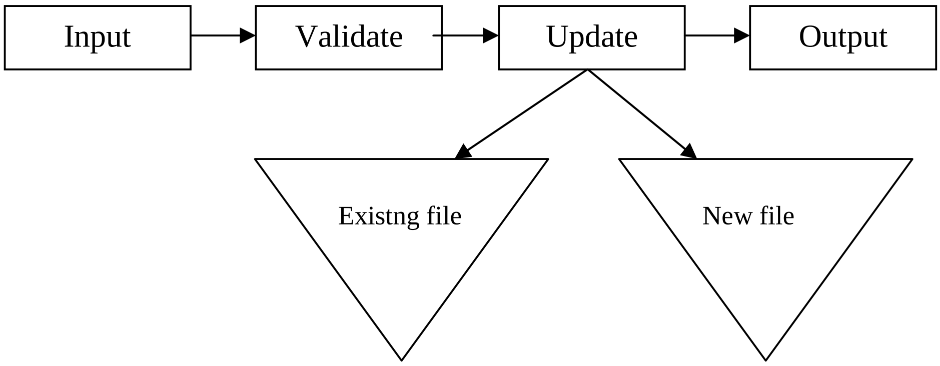


Fig. 2.2 Components of a CBIS

The possibilities of visualizing computer technology in lower income countries began to receive attention. Bertrand et. al (1988) write that a computer based system suggesting that micro computer facilities timely collection and analysis of data for management decision and conclude that the micro computer is an appropriate technology for improving management information in organization and an important potential role for the computer is in its use as an educational tools.

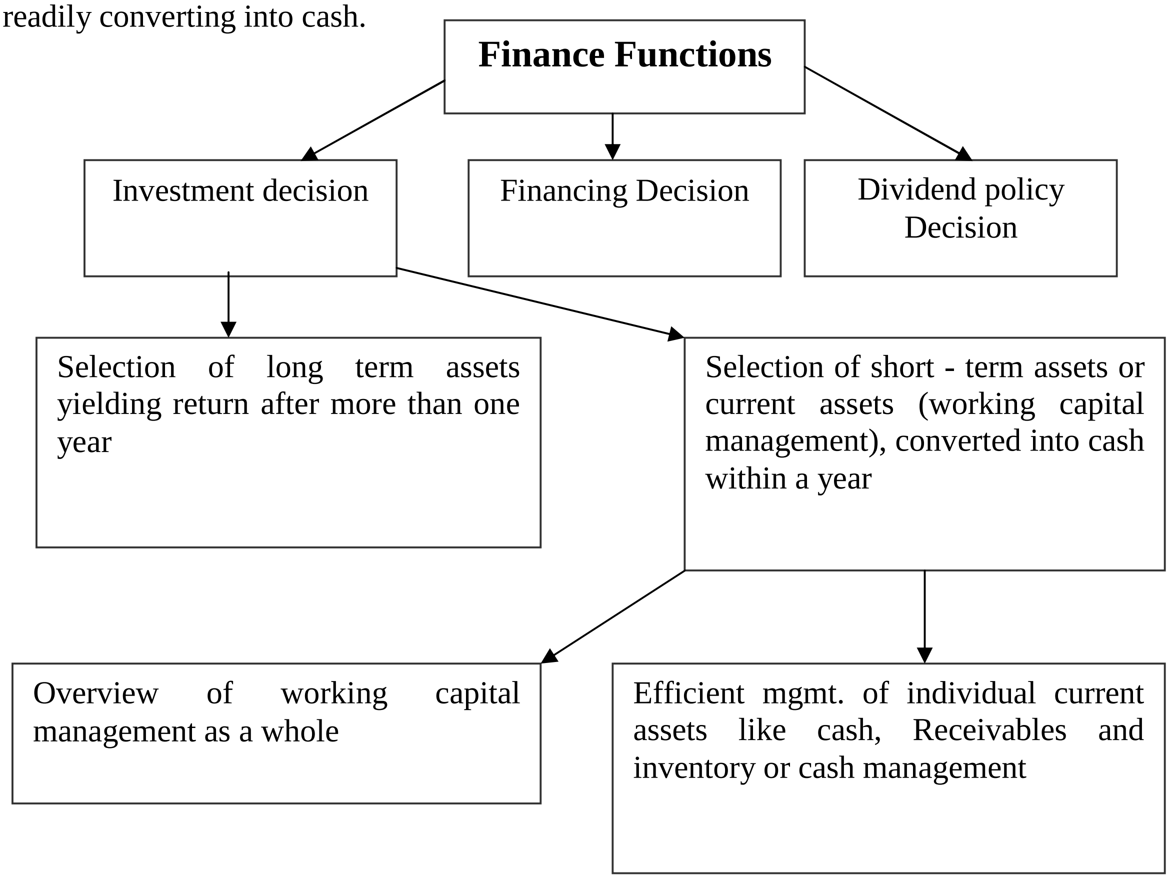
The basic concept of cash management has been searched in to this section of literature review. Text books that have been prescribed under academic studies are the primary sources on the basic concept of cash management.

2.2.3 Definition of Cash and Cash Management

Cash is lifeblood of the business, which is the most important component of the working capital. It is the most liquid assets, have vital important to daily operations of the firm. Cash is the common denominator to which all current assets can be reduced because the other major liquid, that is receivable and inventory get eventually converted into cash (Khan and Jain, 1999). This underlines the significance of cash management cash provides liquidity, but it doesn't pay interest; it is just one of the raw materials that you need to do business. It is expensive keeping your capital tied up in large inventories of raw materials when it could be earning interest (Brealey & Myers, 1999:884).

The term cash with reference to cash mgmt. is used in two senses. In a narrow sense it is used broadly to cover cash (currency) and generally accepted equivalents of cash such as cheques, drafts and demand deposits in bank. The broader view of cash also includes near cash assets, such as marketable securities and time deposits in the banks. The main characteristic of these is that they can be readily sold and converted into cash. They also provide a short-term investment outlet for excess cash and are also useful for meeting planned outflow of funds. We employ the term cash management in the broader sense. Irrespective of the form in which it is held a distinguished feature of cash, as an assets is that it has no earning power ….(Khan & Jain, 1986, p. 663-664).

So simply starting, management of near cash assets, i.e. marketable securities, time deposits in bank, is called cash management. Broadly speaking, receivables and inventory is also termed as management of cash because receivables and inventory are also supposed to readily converting into cash.



Cash Management, a Function of Finance (Extracted from financial management, Khan & Jain, 1986)

According to modern approach financial management can be broken down into major decisions as function of finance, which are:

- Investment decision - Financing decision & Dividend policy decision Cash management function comes under investment decision. Investment decision refers to two major decisions.

(1) Selection of long term assets, which will yield a return over a return over a period of time in future, i.e. more than a year, and.

(2) Selection of short term assets or current assets which can generally be converted into cash with a year.

The latter decision function is also termed as working capital management, which is concerned with the management of current assets. The tow basic components of working capital management are:

(i) An overview of working capital management as a whole.

(ii) Efficient management of the individual current assets like cash receivables and inventory.

Cash management deals with the second component of working capital management, the management of cash or near cash assets such as marketable securities and time deposits in banks, receivables and inventory.

Motives for Holding Cash

Cash is the common denominator to which all other current assets can be converted into readily or in near future, and thus it is the most liquid current asset. Cash when held as an asset has no earning capacity. Nevertheless business firm have to hold cash for three different motives, they are:

- Transaction motive - Precautionary motive and Speculative motive

Keynes has identified. However M.Y. Khan and P.K. Jain have also taken into consideration.

- Compensation motive, yet another motive.

1. Transaction motive refers to the need for cash to meet payments related to ordinary course of business transactions payments of purchases, labour takes and dividends. In day to day business transactions a firm necessarily requires cash to meet payments of its purchases wages operating expenses. Financial charges like interests, taxes dividends etc. like wise in the course of daily business transactions. Cash are generated from sale of goods or services, returns on outside investments etc. This receiving of cash is called cash inflows and the payments of cash are termed as cash outflow. In practice, cash inflow and outflow seldom coincides, and thus of cash inflow and outflow seldom coincides, and thus of cash outflow. Such requirement of cash to meet scheduled payments in course of daily business transaction is known as transaction.

2. Precautionary motive for holding cash is the need for cash to maintain a cushion to meet unexpected contingencies, such as the situation of natural calamities like earth quake, floods, strikes, etc. Sharp increase in raw material cost dramatic showdown in collection of accounts receivables, unexpected cancellation of order for goods owing to dissatisfaction of customers etc.

3. Speculative motive refers to the holding of cash by the firms to take advantage of opportunities when the firm would face unexpected situations and which are typically out of course of business. Precautionary motive is defensive in nature; to put it differently, the purpose for holding cash under precautionary motives lies in fulfilling cash requirements should any unexpected opportunities such as to purchase raw materials at a reduced price on instant payment, buying securities when interest rates are speculated to decline, etc.

4. Compensation motive refers to the holding of cash balance to compensate banks for providing certain services and loans to the firm such as clearance of cheque, supply of credit information, transfer of funds, etc. For the services provided by the bank as stated above, the clients are required to maintain a minimum balance of cash at bank, which can not be utilized by the clients. Since the proportion of this cash balance cannot be utilized in firm for the transaction purposes the bank they can use the money to earn some return. Such balances held by banks for the services they provide to their clients are called compensating balance likewise under some sort of loan agreements between a bank and its customers. Compensating balance is required as a condition precedent to the grant of loan, when the supply of credit is restricted and interest rates are rising.

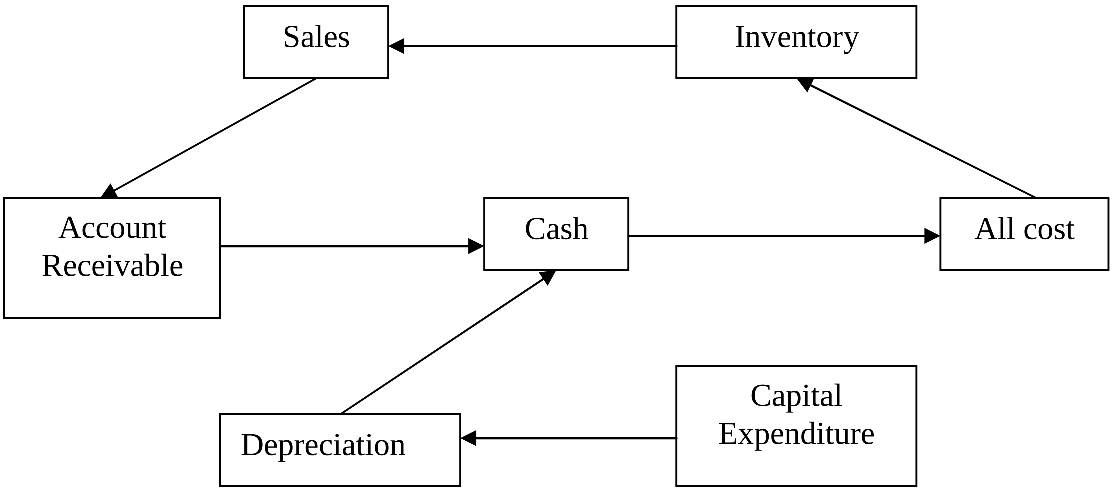


Figure 2.3 Cash flow & its Related Variables

(Van Horn 1991:394)

Out of the four motives for holding cash, the most important ones are transaction motive and the compensation motive. This is because precautionary balances can be met by sort terms borrowings and business firms normally do not speculate and thus doesn't require speculative balances.

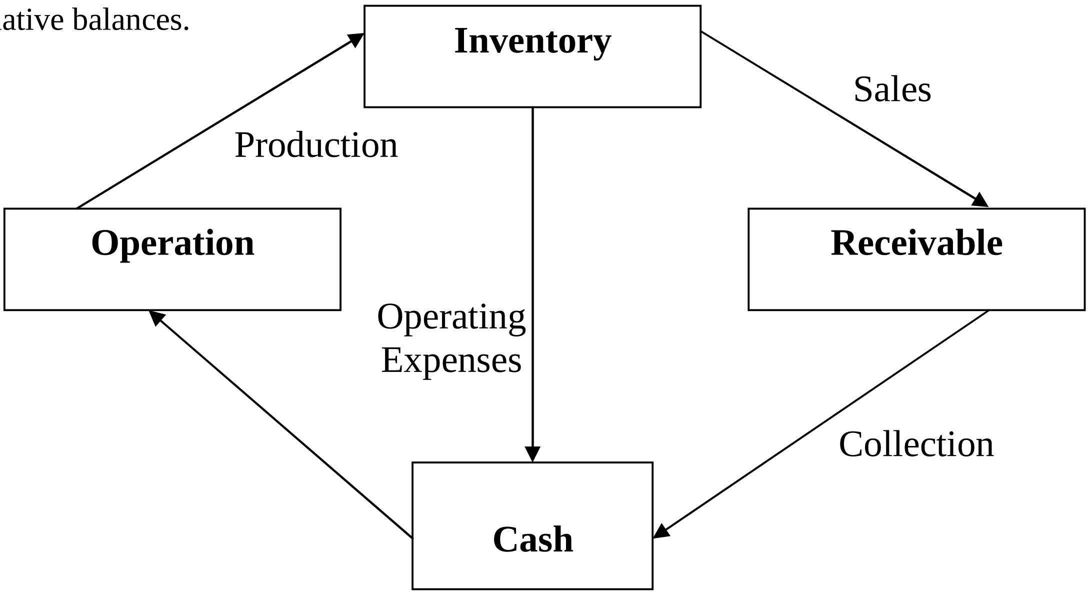


Fig: 2.4 Influence on cash and working capital (Gerstenberg 1690:285).

Business with regular gross income in the form of cash payments for goods or services need relatively small cash working balances. If the bus company with its sign 'pay as you enter' cannot meet demand for cash, the trouble is not with the working capital but with the whole business. To the extern that either regulating of income or cash term is taking the supply of cash funds should be increased; forecasting is the calculation of all reasonable probabilities about the business future.

2.2.4 Area of Cash Management

Area of cash management includes basically cash planning and forecasting strategic of cash mgmt techniques, optimum cash balance and investing the excess cash on marketable securities.

(i) Cash planning and forecasting (cash Budget)

Cash planning is a technique to plan and control the use of cash. It protects the financial condition of the firm by developing a projected cash statement (Pandey, 1999). Cash budget is a summary statement of the firm's expected cash inflows and out flows over a projected time period. It gives information on the timing and magnitude of expected cash flow and cash balance over the projected period. This information helps the financial manager to determine the future cash needs firm, plan for the financing of these needs and exercise control over the cash and liquidity of the firm. (Van Horne, 1996)

Cash budget serves two purposes. The first is the budget alerts the financial manager to future cash needs, second the cash flood forecasts provide a standard or budget, against which subsequent performance can be judged (Brealey and Myers, 1999). Thus, cash budget is arrived as through a projection of future cash receipt and cash disbursements of the firm over various intervals of time there the cash budget refers the short term cash forecasts. So, one of the significant role of the short term forecast is to pinpoint when the money will be needed and when it can be repaid. Another use of cash forecasts is to help in managing the investment of surplus cash in marketable securities. There are two most commonly used methods of short term cash forecasting and control.

(a) Receipt and Disbursement method:

In this method involves forecasting for each terms of receipts and payments. The prime aim of receipt and disbursements forecasts is to summarize these flows during a predetermined period (Pandey, 1999).

(b) Adjusted net income method:

It is sometimes called the source and uses approach. Mainly, it has three sections: source of cash, uses of cash and the adjusted cash balance. This procedure will help in adjusting estimated earning on an accrual basis to a cash basis. It also help in anticipating the working capital movements.

2. Basic strategy of cash management/cash cycle

The broad cash management strategies are essentially related to the cash turnover process that is the cycle refers to the process by which cash is used to purchase materials from which are produced goods, which are then sold to customers who later pay the bills. The cash cycle involves several steps among the way as funds flow from the firm's accounts as shown in below.

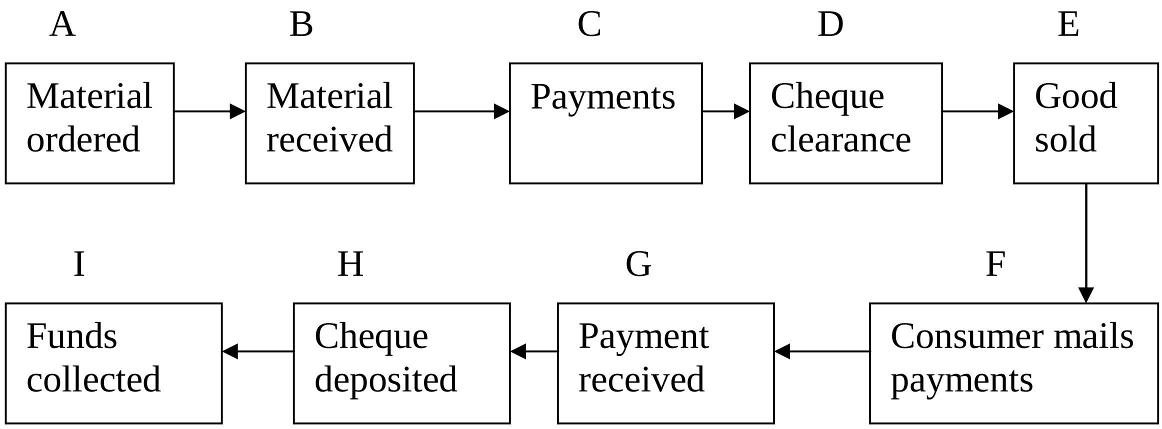


Fig: 2.5 Several Steps of Cash Cycle (Solmon and Pringle 1978)

A firm has no control over the time involved between stages A and B. The lag between D and E is determined by the production process and inventory policy. The time between stages E and F is determined by credit terms and the payments policy of customers.

Minimum Operating Cash

The higher the cash turnover, the less is the cash a firm requires. A firm should, therefore try to maximize the turnover. But it must maintain a minimum amount of operating cash balance so that it does not run out of cash. The minimum level of operating cash is determiner by dividing the total operating annual outlays by the cash turnover rate. Cash management strategies are intended to minimize the operating cash balance requirement. (Khan & Jain 1999)

2.2.5 Cash management Techniques/Processes

The efficiency of cash management techniques means speedy cash collection and delaying payment on account payable.

A. Managing Cash Collection

In managing cash efficiently, the cash inflow process can be accelerated through systematic planning and refined techniques. Some techniques of speedy cash collection practiced by various business firms are given below:

1. Concentration Banking

In this techniques of decentralized collection of account receivable, large branches as collection centers for receiving payment from customers. In stead of all the payments being collected at the head office the firm, the cheques for a certain geographical area are collected at a specified local collection center. Concentration banking, as a system of decentralized billing and multiple collection points, is a useful technique to expedite the collection of account receivable. It reduces the time needed in the collection process by mailing time.

2. Lock Box system

Concentration banking system of collection of account receivable, processing for purpose of internal accounting is involved, that is some time elapses before a cheque is deposited by the local collection centre in account. The lock box system cares this kind of problem, a part from effecting economy in mailing and clearance times. Under this system firms hire a post office lock-box at important collection centers. The customer is required to remit payments to the post office lock box. The main advantage of a lock box system is that cheques are deposited at banks sooner and become collected branches sooner than if they were processed by the company prior to deposit. In other words, the lag between the time cheques are received by the company and the time they actually are deposited at the bank is eliminated; but it is more costly. (Van Horn 1996).

3. Transferring Funds

A transfer mechanism is a system for moving funds between accounts at different banks. The three main transfer mechanisms are:

-Wire transfer:

It is the faster way to move cash between banks, eliminating transit float. Wire transfer are typically initiated on a standing other basis company head quarters will make a written authorization to a local depository bank to transfer funds to the firm's concentration bank when the amount exceeds some target level

-Depository Transfer Cheque (DTC):

DTCs us a cheque restricted for deposit at a particular bank. DTCs provide a means for moving funds from local depository bank into concentration banks. DTCs may also be initiated by central company management is response to deposit reports from local office and lock box banks, or on a prearranged schedule.

-Electronic Depository Transfer Cheque (EDTC):

EDTC is a paperless electronic image transfer via the automated clearing house (ACH) network developed. The EDTC avoids the use the mails and has a uniform one - business- day clearing time. EDTC is generally initially initiated by central company management.

B. Managing Disbursements

Effective controls of disbursements can also result more availability of cash. The objective in disbursements is to slow them down as much as possible. The combination of fast collection and slow disbursements will in maximum availability of funds.

-Using float:

One way of maximizing cash availability is 'playing the float' for disbursement, float is the difference between the total money amount of cheques drawn on a bank account and the balance shows on the banks book. It is possible of course for a company to have a negative balance on its books. A positive bank balance, because cheques outstanding they are drawn. If the size of float can be estimated accurately, bank balances can be reduced and the funds invested to earn positive return. For using float company should pay from distant bank or scientific cheque cashing analysis.

-Centralized disbursement:

In this system all the payments should be made by the head office from a centralized disbursement account. Such as arrangement would enable a firm to delay payments and conserve cash for several reasons. First, it involves increase transit time. Second, since the firm has a centralized bank account a relatively smaller total cash balance will be needed. Third, schedules can be tightly controlled and disbursement made exactly on the right day.

Avoidance of early payments:

According to the terms of credit, a firm is required to make a payment with in a stipulated period. It entitles a firm to cash discounts. If payments are delayed beyond the due date, the credit standing may be adversely affected, so that the firms would find it difficult to secure trade credit later. But if the firm pays its accounts payable before the due date it has no special advantage (Khan and Jain 1999).

Accruals:

Accruals are defined as current by not yet paid for such as remuneration to employees, payment of taxes, payment of rent, who render service in advance and receive payments later. The longer the period after which payment is made the greater is the amount of free financing consequently and the smaller is the amount of cash balance required.

C. Electronic Fund Transfer:

Now a day, computer is widely used for transfusing the funds that regulating changes have been emitted greater competition among financial Institutions. Another aspect of changing environment is the increased satisfaction in computer application to cash management and in electronic fund transfer. With such system a customer's cheque is scanned electronically and verified by computer.

The increased use of electronic system is moving the economy towards electronic data interchange (EDI). EDI's efforts in float management: it will be possible to forecast the timing of cash flows with greater accuracy. Traditional practices in areas such as credit terms based on paper/ mail/ manual procuring are likely to be subject to change (Weston and Copland, 1992). Most money movement today is in the form of electronic funds transfers (EFTS) a practically all financial records are stored in computer memories and not on paper.

2.2.6 Cash Management Models

In cash management model, it is assumed that the firm on average is growing and is a net user of cash. Marketable securities represent a buffer stocks between episodes of external financing, which is drawn as required periodically. Ordering cost is represented by the clerical and transactions cost of making transfers between the investment portfolio and the cash account. The holding cost is the interest foregone on cash balance held. Assuming that expenditure occurs evenly over time and that cash replenishments come in jump sums at periodic intervals, the optimal size of the cash transfer is formulated as follows:

$$C \text{ X} \sqrt{\frac{2bT}{i}}$$

Where,

c= the optimal for the period of time involved.

b= the cost of the transaction in the purchase or sale of marketable securities

i= the applicable interest rate on marketable securities.

Cash cycle:

They refer to the process by which cash is used to purchase material from which are produced goods, which are then sold to customers who later pay bills. Thus opportunities to improve cash cycle help in best management of cash. The cash cycle involves several steps along the way as found flow from the firm accounts as shown as below:

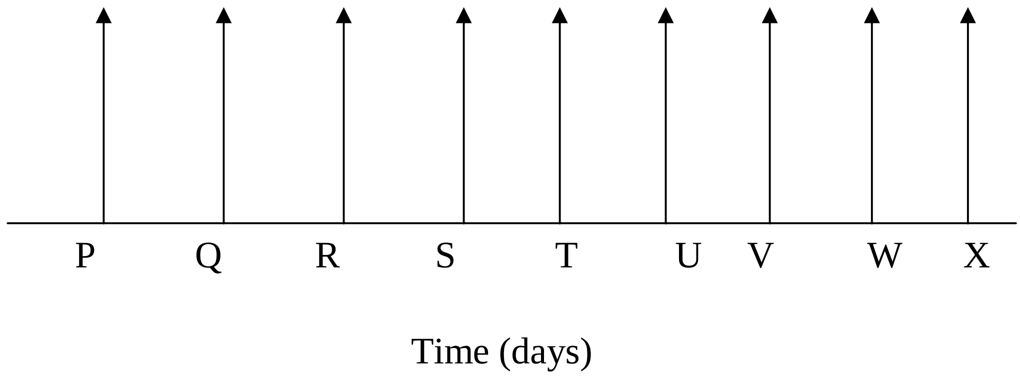


Figure: 2.6 Cash Cycle

(Source: Ezra Soloman and John J. Pringle: An introduction to financial Management)

P= Material order

Q= Material received

R= Payment

S= Cheque clearance

T= Good sold

U= Customer’s mails payment

V= Payment received

X= Funds collected.

The financial needs of corporation is affected by the total time lag from point P to 'X' showing from the above cash cycle figure we are concerned with the time period involved in stages QRS and UVWX. It may be mentioned that a firm has no control over time involved between stage Q and R and similarly S and T and So on is determined by production company needs a certain period (i.e. weeks/months) to collect fund from beginning to ends of material ordered to have ultimate cash. Different shop has their different during period to go for further steps. In this way after going through all steps, the funds will be collected. In short, cash cycle plays a vital role in the business operation activities and such cycle can be repeated in time to time as circulating blood of human body. This is applicable only for direct selling of customer goods but in a manufacturing concern, the time lag may be still greater.

2.3 Review of Books

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

The well known professors Weston and Brigham 17 have been given theoretical insights in to current management (cash management) after this various research studies on it. The bond conceptual finding of their studies provides sound knowledge and guidance for the future studies on the field of management. Cash management in any enterprises and naturally on this study as well. They explain in the bumming the motives for holding cash specific advantage of adequate cash, synchronization of cash flows, cost of cash management, determining the minimum cash balance, compensating balances, overdraft system cash management, marketable securities substitute for cash criteria for selecting securities investment alternatives. Management of account receivable, credit policy, evaluating changes in credit policy.

We also received some theoretical concept on the component of cash management from van Horne books. He has categorized the various component of cash management. These are the functions of cash management, managing collection transferring funds concentration banking luck box system and other procedures, control of cash disbursements payroll and dividend disbursement, zero balancing account, electronic fund transfer, balancing cash and marketable securities, compensating balance and fees, model for determining optimal cash minatory model stochastic model. A management a well known Indian professor I.M. Pandey has described some conceptual ingredients, which are based on his various research studies. We can learn lesson from it and also helpful for this study indeed. Fact of cash management, motives for holding cash, cash planning, cash forecasting the budgeting, managing the cash flows controlling disbursement, determining optimum cash balance.

From the book entitled financial management written by M.K. Khan and P.K. Jain 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 denominated to which all current asset can be reduced because the other major liquid assets that is receivable and inventory get eventually converted in the cash. This underlines the significance of cash management.

While cash situation is unique, the one common threat that runs through all corporations in crisis is a lack of liquidity. Current assets which consists cash balance, inventory, account receivable and other short term assets during the operating cycle as expected not more one year must be efficiently utilized to match the inflow and outflow of cash. However it is expected fact that too much investment in current assets are not derivable as there is a constant danger of losing the opportunity cost in the form of forgone earnings.

The relationship between sales growth and need to finance current asset's is closed and direct. The growth of sales means generation of more funds provided such sale constitute cash sales and this enables corporations to be self, supporting with out any need to tap additional funds for current assets. But if there are more credit sales, the size of account receivables raises that for the short period corporations have to manage funds either through effective credit policy to have quick collection or arranging a bank loan for short period. The amount of earning also decide how much to invest in current assets as more earning lead to more inflow of cash enabling corporations to meet cost of operation easily.

But decline in earning put burden of liquidity and additional investment in current assets. The highly developed money market and efficient banking services make early availability of credit at any time when it is needed and it such situation corporation can avoid maintenance of higher cash balance and also can easily discount accounts receivable. But lack of these services Compel Corporation to follow precautionary policy of holding more current assets. The turnover of corporations is equally important to be considered as quick turnover which means ability of corporation to have fast process of conversion makes burden of liquidity and there by helping to undertake further production expansion, but prospect of business have much to do in the overall evaluation of current assets. During the peak seasons, corporation has to keep more stock of commodities readily available to meek increasing demand and it can generate cash quickly. However during to condition of recession, the current assets should be converted in to cash.

Cash is the important aspect of working capital. Cash is the basic input needed to keep the business running on continuous basis so the cash should be managed efficiently in order to keep the firm sufficient liquid and to use excess cash in some profitable way. The firm should held sufficient cash, neither more nor less. Cash shortage will disrupt the firms operation, while excessive cash will simply remain idle, without contributing anything towards the firms profitability. Thus major function of the financial manager is to maintain a sound cash position.

Liquidity is the lifeblood a corporation and a want of cash is the only factor which may free it out of business. Cash flow in the corporation by direct cash sales of assets. It flows out in direct purchase and payment to creditors, wages and other costs. Cash also flows in the purchase of capital equipments. In the payment of cheques and interests on borrowing money and in dividends to shareholders. The way corporation manage current assets has on important bearing on the overall liquidity position and failure of maintaining sufficient degree of liquidity may cause the interruption of regular operations besides making corporate manager unable to pay obligation in time. While each situation is unique, the one common thread that runs through all corporate in crises is a lack of liquidity.

The cash balance of a firm is influenced by credit position of the firm states of firms receivable and investment nature of business enterprises. Management attitude towards risk and size of sales in relation to mixed asset. Besides there factors cash balance is also influenced by availability of short terms credit money market rate and variations in cash flow for effective management of cash, it is very much necessary that management should make every effort to speed up cash inflow and delay cash outflow. It is also not necessary that management should not fail to meet its obligations, while delaying the outflow of cash.

A cash budget shows the planned cash inflows outflows, and ending position by interim period for a specific time span most companies should develop both long-term and short term plans about their cash flows. The short term cash budget is included in the annual profit plan. A cash budget basically includes two parts (i) the planned cash receipt (ii) planned cash disbursement. Planning cash inflow and out flow gives the planned beginning the ending cash position for the budget period planning the cash inflows and out flows will include. Need for financing probable cash deficit or the need for investment planning to put excess cash to probable uses.

One of these was presented by **Mr. Bijaya Pradhan** in 1997, entitled A study of cash management of salt trading corporation ltd. as partial fulfillment of the requirements for the degree of masters of business administration. The thesis was based on the secondary data of the company for the part six years and it analyzed the major aspects of cash management such as analysis of liquidity position, cash management system and account receivable through various financial ratio analysis. The major findings of this study have been presented as follows:

(1) Management has taken liberal credit policy to sales of goods. Hence the cash and bank balance of the study period is minimum of account receivable.

(2) Salt Trading Corporation limited (STCL) could not make the best use of available cash balance prudently.

(3) The cash collection efficiency in this corporation is very low.

(4) Management of cash collection efficiency in this corporation is very low.

(5) Optimum cash balance not maintained. The cash & bank balance with respect to current assets has been in fluctuating trend. Similar is the cash with respect to the total assets.

Like wise, recommendations of the study have been under following points.

(1) Maintain optimum cash balance.

(2) Efficient management of cash

(3) Preparation of cash budget

(4) Invest in marketable securities

(5) Invest surplus cash in profitable opportunities.

(6) Design effective account receivables management.

(7) Preparation of monthly trail balance cash fund flow statements and financial reports.

(8) Adaptation of effective credit policy.

- Some short coming has been identified in this thesis which is presented as below:
- Cash budget analysis has been missing. This analysis also holds particular significance for it assesses efficiency of a firm in speculating cash deficit and surplus in future.
- Analysis of cash flow statement has been found missing. This analysis is important because it analysis movement of cash, internal financing management and success or failure of planning.
- Acid test ration and current ratio has not been included in analysis liquidity position. These ratios have been considered the most effective tools for analyzing liquidity position of an enterprise.
- Inadequate use of financial and statistical tools.
- Profitability rates have not been worked out and thus major portion of the study, i.e. analysis of relation between liquidity with profitability has been found missing. This analysis holds significance because of conflicting nature of liquidity and profitability.... If firm does not have adequate working capital, i.e. it does not invest sufficient funds in current assets, it may become illiquid and consequently may not have the ability to meet is current obligations and thus invest the risk of bankrupted. If the current assets are too large, the profitability is adverts affected. The key strategies and considerations in ensuring a trade off between profitability and liquidity is one major dimension of working capital (Khan and Jain 1986. P.7-8).

Another thesis was by **Dr. Subarna Lal Bajracharya** presented in 1990 entitle "Cash management in Nepalese enterprise." The writer is currently professor of Tribhuvan University. The study was detailed cash management study of the prominent. Nepalese enterprises during the time and it include research on total of 18 enterprises finally recommending a new cash management model suitable in Nepalese context.

Since the thesis presented was for Ph.D. Degree most of the data analyzed were primary and in greater detail. The thesis examined practices of cash management. In selected Nepalese enterprises through questionnaire distributed to various authorities of the enterprises. The thesis was rather than an inspiration to this study to undertake this thesis then a source of quantitive information.

Another study **Sabin Prakesh Suinju -** 2005 on cash management in Public manufacturing enterprises of Nepal, A case study of Royal Drugs Ltd.

The main objectives of this study are:

(1) To examine and critically analyses the cash mgmt practices in RDL

(2) To examine the liquidity position of Royal Drugs Ltd.

(3) To examine the cash flow statement of Royal Drugs Ltd.

(4) To analyze the cash budgeting practice of Royal Drugs Ltd.

(5) To recommend viable suggestions to cope up with cash management short coming in Royal Drugs Ltd etc.

The major finding of this study

(a) Overall Cash Management

(1) RDL doesn't have any definite policy reading how much of cash balance to hold each fiscal year.

(2) RDL has not been forecasting cash balance taking in to consideration on the sales volume.

(3) RDL fails to maintain on adequate proportion of cash in its current assets.

(4) Cross analysis related that RDL fails to collect receivables from its sundry debtors timely.

(5) RDL has not been precisely meeting its current liabilities indicate that for some fys such cash and bank balance held is excessively high whereas for some other FYS such cash and bank balance is extremely low.

B. Liquidity Position

Overall the liquidity position of the firm has been found moderately dissatisfactory.

C. Cash flow Statement

Overall clearly cash inflow and out flow in R.D.L is not in properly managed. Surplus cash has not been properly employed to earn returns by investing in short term investment opportunities.

D. Cash Budgeting Practice

Overall cash budgeting practice of ROL is poor.

Another one way by **Mr. Naresh Kunwar**, entitled. A study on working capital management of pharmaceutical industry of Nepal with special reference to Royal Drugs Ltd" Presented as partial fulfillment for the requirements of the master's of business administration in the year 2000. Much of the findings were computed on the basis of financial and statistical ratio analysis of secondary data such as profit and loss account and balance sheet. Where as, concerning primary data, a questionnaire was distributed to extract qualitative information. Overall, through the study was of its own kind, it was not at all focused on the cash management aspect of the organization.

In the like manner, a somehow related thesis to cash management was present by **Mr. Krishna Narayan Shrestha** in the year 2000, entitled 'A study on inventory management in Royal Drugs company limited'. The analysis were carried on the basis of inventory management formulate such as economic order quantity and Re-order level. Mr. K.N. Shrestha computed inventory values theoretically and compared it with actual quantity of inventory in the firm in relation with other factors such as time, working days, and so, on. The deviations from theory suggested the condition of actual inventory management practice of the firm. In spite of the approach to analysis being different from the general tools of analysis only a portion of cash management i.e. only the inventory management aspect has been analyzed the analysis being based only on three types of raw materials purchased.

Thus it was identified that there are still a lot to explore in cash management function of the financial literature. It was clear from review of literature that a dissertation on cash management is one of the uncommon undertakings and this bears originality of its kind. However, before commencing this undertaking, there were several alternatives to begin an undertaking of the thesis.

Alternatives such as case study, comparative analysis, study of more than two enterprises, etc were some of these like wise, the other variations of alternatives are the types by legal status of enterprises existing in the country; for instance private enterprise, public enterprise, partnership enterprise, government enterprise, or the other combination could be the type of goods or services these enterprise are producing for instance pharmaceutical industry cigarette factory, financial institutions, paper and paper products industry, and so on. These complications got simplified after the following literature review.

Shrestha (1980) carried a study about cash management on the book of 'financial management'. He also added about cash management of Nepalese corporations individually. At that time, he studies 6 public corporations which are 3 manufacturing and 3 non-manufacturing Organizations some of the major conclusion of his study is as follows.

Majority of corporation in a developing country look towards the mouth of government of funds and government considers corporations as its infant babies badly in need of nourishment.

In the case of cycle, time period of material received from suppliers is beyond the control of corporations and do not directly affect the financial statement although they have much to do with production schedules of corporation.

The first motive of holding cash of the corporation is transaction. For this purpose manufacturing and trading corporations like national trading required to retain higher cash balance than the public utility corporations like Nepal electricity corporations and Royal Nepal Airlines Corporation.

The second motive that encourage, corporations to hold cash is the precautionary motive. National construction company Nepal suffered from lack of cash to under take the most profitable contract due to failure of forecasting cash receipts from the completed construction work from where the collection of cash is found to be unexpectedly delayed.

This third motive often considered by the corporation is the opportunity motive to earn profit from cash holding, i.e. speculative motive.

For efficiently of cash management, quick collection and delay disbursement is necessary bolt in context of Nepalese corporation; it is found that most of them make quick disbursement while the collection is slow.

Another study conducted by Pradhan and Koirala (1982) about working capital management in Nepalese corporations specially based on secondary data. For the purpose of the study they divided corporation in to the manufacturing and non-manufacturing groups. They select 5 corporations from manufacturing and 5 corporations from non-manufacturing sector. Some of those major conclusions about cash management are as follows:

-The manufacturing corporation has more investment in cash as compared non-manufacturing. The investment in cash by manufacturing has become more consistent where as investment by non-manufacturing has become more inconsistent.

-The management of cash involved more problems as Compared to the management of account receivable and inventories.

-To provide a research for outline net outflows of cash is the major motive for holding cash.

A study by Pradhan (1986) on working capital mgmt based on selected Nepalese public manufacturing enterprises. These were nine enterprises selected in his study and time is covered by 1973 to 1982. The major findings of that study on cash management are given below.

Of all the different component of current assets the share of cash is the smallest portion in most of the selected enterprises and over a period of time, the share of cash has declined slowly and steadily.

The pooled regression results of this study contradict unitary or more than unitary sales elasticity hypothesis Maddala with respect to the demand for cash by Nepalese enterprises. The presence of economics of scale in cash holdings is to some extant, consistent with conclusion of the financial performances of these public enterprises have been seen disappointing. Above literature reviews indicated that almost of all the public enterprise are operating under loss. Cash management is not doubt an integral part of finance functions, and research undertaking as cash management function is one of the rarest under these literature reviews put forward a suggestion to under take research on of these PES and its cash management part Baumol, Tobin, Frazer, Naidiri and Coates.

The findings from regression is consistent with the findings of sudden, the Allessi, Nai Diri and Coates and contradicts fried man's so for the effect of capital cost on cash holding is concerned.

The adjustment speed of actual to desired balance has been observed highest for cash then other working capital component. However, the speed of adjustment is much slower in all these case. Even cash holding is not immediate. The results thus contradict the high speed of adjustment observed by Nadiri and Coastes in the case of the demand of cash.

The inclusion of capacity utilization in the models does not seem to have contributed much to the demand functions of the working capital and its components. Thus the capacity utilization as a significant variable affecting these demand function is doubtful.

These findings are based on ratios and results from econometric models. Therefore, it is imperative to carry out a study on both public and private Manufacturing Corporation.

Bajracharya (1990):

Most of the Nepalese public enterprises practices of cash management in the traditional basis, they have taking in a scientific approaches.

A more serious aspect of cash management has been the absence of any formalized system of cash planning and cash budgeting in many of the enterprises do have the practices of forecasting cash requirement on a formal basis.

Modern practices with respect to debt collection monitoring the payment behavior of customer and relevant banking arrangement in connection with collection of receivables have virtually ignored in many enterprises.

Majority of the enterprises did not face and serious liquidity problem. However, this was not because of the effectiveness of cash planning and budgeting. The problem of liquidity actually did not arise due to the coincidence of delay payment to creditors.

Most enterprises look 150-180 days in collections over due accounts. In case delayed payment very few enterprise charged interest, the charged rate around 10% to 18% annually.

By and large most enterprise had period accumulation of surplus cash and corresponding cash shortage from time to time. However, none of the enterprise considered the implications of holding idle cash balance and few took into the account the potential benefit of investing surplus in marketable securities. These which did failed to consider the cost of administrating such investment.

Used the financial ratios and the trend there of the manufacturing enterprises revealed a more favorable picture of the effectiveness of cash management relatively to non-manufacturing as reflected to current ratios.

Regression analysis reveled that there was little effect of the opportunity cost of holding cash on the cash balance hold by the enterprise. Neither interest rate nor the rate of inflation had any effect on the cash balance further these was very little evidence of the effect of economy of scale on cash balance holding all most case.

Pradhan (1997) studied about cash management on individual case of national trading ltd. This finding is very same as Bajracharya (1990). But the trading company so his study is not so indicated as manufactures companies. Another study conducted by Gautam at 1990. He studied cash management a manufacturing company i.e. Gandaki Noodles this study indicated that the company is not very sincere about cash management and the volume of companies cash demand, deposit investments are very fluctuation in nature. His conclusions are very near to findings of Bajracharya.

After analyzing this conclusion, objectives finding ratios and regressions related to the cash management coveys some relationship with receivable inventories, sales and profitability. Similarly those conclusions do not give clear picture of overall cash management in Nepalese enterprise cash management. This study has become old and it covers some of the selected government enterprises. Now some of enterprises re privates and some are dissolved also, so this study can not reflect about cash management in present situation.

2.6 Conclusion Remarks

Cash management is the very important part of the working capital management. It is, so important because it's very circulating of the nature. Not much more, in manufacturing operations just in time assembly system provide for the continuous stream of parts delivers, with no more than 2 or 3 hrs worth of parts inventory on hand. Financial managers like wise strive for just in time cash al manager's like wise strive for just-in-time cash management system in which no cash lies idle any where in the company's business.

It is also considered that trade off between the benefits and a cost of liquidity is an essential past of cash management. The cash management of business firm is significant enough to have to the best use of idle cash balances and to take advantage from the opportunity inherent in cash velocity determined by sales volume and turn over assets. Corporate manager must be familiar with the cash cycle to undertake measures for improvement of collection and disbursement. The various motives of holding cash and determination of safety level based on normal periods and peak periods must be adequately considered. The cash flow balance of corporation can be sufficiently improved by increasing volume of sales and turn over total assets. But on the whole, measures should be taken to have efficient collection combined with disbursement.

The actual cash balance maintained depends upon combination of fast collection and slow disbursement resulting maximum availability of funds. But the problems of corporations in developing countries arise mainly due to delay in collections and disbursements (Shrestha, 1980). A part form the difference financial policies, economic condition and the objectives of the enterprises, are the common procedure which help to manage the cash.

Research on cash management is an essential component of studies in the4 field of financial management work in cash management areas have been unlined by and large to the techniques of cash management with out any systematic assessment of their implications. So far very empirical studies have been made consistent with the increasing attention towards cash management.

Thus there is need to carry out a study to asses' recent development in cash management and it should be find out whether their findings are matching Nepalese practices. In conclusion, the study of cash management can be great importance.

CHAPTER THREE

RESEARCH METHODOLOGY

Research methodology is a systematic way to solve the research problem. Research methodology refers to the various steps to be adopted by the researcher in studying a problem with certain object in view.

This chapter describes research methodology adopted from the study. The major topics include study design, nature and source of data, population & sampling, data collection techniques, data processing and analysis procedure, and data analysis tools & used. This study is basically a case study of DDC.

3.1 Study Design

A study design is the agreement of conditions for collection and analysis of data in a manner that aim to combine relevance to the research purpose with economy in procedures. Thus it is not possible for the researcher to conduct a research project without study design. The research is designed in such a way that it would be more convenient for the researcher to collect the actual data and information during the course of research study.

3.2 Population and Sample

A personnel interview was conducted with the chief of MIS section, HR section and other employees of the project. Thus, it becomes clear that there has been conducted stratified sampling within the study period.

3.3 Nature and Source of Data

In order to achieve the objective of this study both primary and secondary sources of data were used. Primary data was collected through formal and informal discussion with MIS section chief, finance manager, HR manager, computer programmers, Engineer, Data Entry persons and data coders/ Editors. Discussions were also held with the personnel of the different divisions/ sections that are primarily data user at central level. The secondary data were collected from the review of published and unpublished documents of DDC. The reports received from the country office, program units, supervision and controlling office were reviewed to find out consistencies, timeliness and validity of data. The data verification, data entry, cross checking and report generation process were also observed during the survey period. Interviews were conducted for soliciting their views on strengths, weakness, problems constraints and possible solutions.

3.4 Data Collection Techniques

The source of data collection techniques have been classified into two groups:

A) The primary source of data and information collection.

B) The secondary source of data and information collection

a) The primary source of data and information collection.

Which collecting primary data and information, different methods have seen used, they are:

(a) Observation Method: Observation method is direct way of gathering information from a particular field, area or event. It is one of the best ways for the researcher to get the real information. By following this method, the researcher has frequently visited the different departments of DDC and observed mainly on the MIS departments (including different division and units covered by this department) existing systems, procedures and technology employed.

(b) Questionnaire Method: During the course of research study, different questionnaires have been designed as per the requirements of research study. The list of questionnaires and their types are attached in the Appendix 'I' of the research study. The list of questionnaires have been distributed to the manager level employees randomly to receive information from the different divisions.

(c) Interview Method: Interview is a method allowing the researcher to ask questions, which will enable him/her to answer research question. In the process of getting information for the introductory framework of research study, structured and unstructured interviews have been conducted with different employees of MIS divisions, which helped the researcher to know overview of the organization as well as the MIS division in particular.

The structured interview is conducted with the division chief and section chief of MIS division. They provided a clear picture in analyzing the existing information system of the department as well as that of DDC. It helped a lot to identify the problems in the existing system and its deficiency generated by the paper based work within the department.

On the other hand, unstructured interview is conducted to HR manager, management expert, engineers and computer programmers of MIS division, which has helped the researcher a great deal to understand in death of the existing information system and a great feed back to design a better information system. They serves the researcher to go further steps ahead to conduct the research activities.

B) The secondary sources of data and information collection

Secondary data is classified as the results and data collected by previous investigators/ researchers. It provides the researcher with a considerable amount of useful information. With reference to the research study the different secondary information has been collected from different sources are:

- ❖ Review of published and unpublished documents of DDC.
- ❖ The reports received from the program units, supervision and controlling offices from DDC working area.
- ❖ The story of DDC-A booklet

3.5 Introduction

This chapter highlights the role and relevance of research in cash management. There are several reasons. Professional managers and business studies should be knowledge able about research and research methods. Research is a part of organizational reality that helps managers to continuously improve. This cheaper will there fore deal with the cash management research methods and process.

Stated simply, research means to search again. We study the social problem again and again to find out something more about the phenomenon. The first look may not always be adequate. It may be prone to error. Therefore, we look into the phenomena again and again and study the problem differently and again is known as research. This research is searching the answers to questions.

Research is a systematic and organized effort to investigate specific problem that needs a solution (Sekaran 1992). This process of investigation involves a series of well though out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answers to the problem. Thus, the entire process by which we attempt to solve problems is called research. There are different management research methods.

(i) Policy research

(ii) Managerial research

(iii) Action research

(iv) Evaluation research

Research methodology is a systematic way to solve the research problems and it many be understood as a science of studying how research is done scientifically (Kothari 2001:10) Research methodology describes the method and process applied in the entire aspects of the study or in this cheaper focus is made on Research design, the population and sample, nature and sources of data and processing procedure tools and techniques which can be use to analyze and describe the data.

3.6 Research Design

Research design is a plan, structure and the strategy of investigation conceived so as to obtain answers to research questions and to control variance (Kerlinger, 2000) like that research design is the arrangement of conditions for collection a analysis of data in a manner that aims to combine relevance to the research purpose with economy procedure (Selltize, Marie and At. el 1962). There are two purposes of the research design, the classical research design, and the elements that need to be included in the research design for a thesis project. The last section of this chapter discusses the collection of data. This is done by discussing four different techniques for collection data, the application of each of these techniques in data collection and their limitations.

The data is selected based upon mainly the availability of information. To conduct the study descriptive vs. analytical approach has been adopted. The aim of this approach is conceptualize of problems and analyze the relationship among cash management and related variance.

It is most likely to represent all other public manufacturing enterprise, particularly the dairy development corporation of the country. However, this is a case study and thus the findings could not be extensively generalized to all other public manufacturing enterprises.

3.7 Nature and Sources of Data

Basically this study is based upon the secondary nature. The data are collected from the following scores.

(1) Financial statements

- Balance sheet
- Profit and loss account
- Trial Balance

Statement of proposed and approved budget with expenses is the data collected for analysis. The company didn't have computerized system the beginning time. So records of financial statement old data dating prior to five years were placed in a separate room in filling cabinets. These and other related data were gathered directly for authorized staff at central office of DDC now it has computerize system to keep accounting records so the secondary data has been collected from annual reports which comprise published or unpublished. The balance sheet and profit and loss accent were obtained for the last 10 years (i.e. fiscal year 2064/065 to 2066/067). To attain the objectives of the study both primary and secondary data have been collected through questionnaire, contacts visits and discussions with chattered account, chief executive, account officer and other related persons. Balance sheet, profit and loss account, questionnaire all are included or attached in appendix at last of this thesis.

3.8 Financial and Statistical Tools for Analysis of Data

The main purpose of analyzing the data is to change it from an understandable presentation. Analysis of data explains methods of organizing data by tabulation and then placing that data in presentable form by using figures and tables (Howard K Wolff & Prem Raj Pant. 1999). The methods of analysis employed in this study include.

(i) Ratio Analysis

(ii) Regression Analysis

(iii) Statistical Tools

(1) Ratio Analysis:

Ratio analysis is a powerful tool of financial analysis. A ratio is defined as "the indicated quotient of two mathematical expressions" and as the relation ship between two or more things. (I.M Pandey, 1999).

In this study various ratios are observed which are related to cash management. There are:

(1) Current Ratio

The current ratio is calculated by dividing current assets by current liabilities;

$$CR \,\mathrm{X}\, \frac{CA}{CL}$$

(2) Quick Ratio:

The quick Ratio is found out by dividing the total of the quick assets by total current liabilities.

$$Q.R \,\mathrm{X}\, \frac{Current\,asset \,\mathrm{Z}\, inventories}{Current\,liabilities}$$

(2) Cash and bank balance to current liabilities ratio;

It indicates how much cash is available to pay current obligation it is stated as:

$$CCL \,\mathrm{X}\, \frac{Ca}{CL}$$

Ca= Cash Bank balance

CL= Current liabilities

The ratio shows whether the level of cash maintained by the organization is greater or less than the current liabilities.

(3) Cash to total assets (CTA)

This ratio shows what percentage of total assets is in the form of cash which can be calculated by using this formula.

$$CTA \,\mathrm{X}\, \frac{Ca}{TA}$$

Where, TA = Total assets

(5) Cash and bank balance to current assets:

It states what percentage of current assets inform of cash that is

$$CCA\ \mathrm{X}\frac{Ca}{CA}$$

Where, Ca = Cash & CA = Current assets

Result higher the ratio, there is more liquidity

(4) Cash Turnover Ratio:

Cash Turnover Ratio shows the number of time the average cash balance is turnover;

$$CT\ \mathrm{X}\frac{St}{Ca}$$

Where, St = total sales,

Ca = cash in hand and bank

(6) Cash to Quick Assets:

Cash to Quick asset states what portion of quick assets in the form of cash this can be calculated as under

$$CaA\ \mathrm{X}\frac{Ca}{QA}$$

Where, QA = Quick Assets

Result higher the ratio indicates higher position of liquid or cash

(7) Average collection period (Acp): In fact, average collection period is not exactly ratio. But it is conversion time between receivable to cash which is:

$$\text{ACP} = \frac{\text{Receivables}}{\text{Total sales in credit}} \times \text{Days in a year}$$

Result the declining from indicate efficiency of cash management

(8) Cash conversion Period:

It is conversion time for raw materials to sales, credit payable and receivable collection it is calculated as:

$$CCP\ \mathrm{X}\frac{sales}{Cash}\ |\ 365$$

(9) Net Profit Margin Ratio

This ratio is computed to analyze profitability position of a firm. Higher ratio indicates high profitability and vice versa. In simple terms, this ratio gives the percent of profit or loss with respect to its sales.

$$\text{Net profit margin ratio X} \frac{\text{Net profit after tax}}{\textit{Sale}}$$

(10) Return on working capital ratio:

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. This ratio is calculated by using the following Formulae

$$\text{Return on working capital ratio X} \frac{\text{Net profit after tax}}{\textit{Current Assets}}$$

(11) Net profit after tax to quick assets ratio:

This ratio also examines profitability of a firm analyses proportion of quick assets (i.e. current assets - inventory) in earning the profit amount.

It is calculated by using the formula below:

$$\text{Net profit after taxt to quick assests X} \frac{\text{Net profit after tax}}{\textit{Quick Assets}}$$

There are several ratios, calculated from the accounting data can be grouped into various classes according to the financial activities or function to be evaluated. As stated earlier, the parties which generally undertake financial analysis are short and long - term or creditor owners and management short term creditor's main interest is in the liquidity position or the short term solvency of the firm long term creditors on the other hand are more interested in the long term solvency and profitability of the firm. Similarly, owners concentrate on firm's profitability and the analysis of the firm's financial conditions. Management is interest in evaluating every aspect of the firm's performance. They have to protect the interest of all parties and see that the firm grows profitably. In a view of requirement of various users of ratio. We may classify them in to the following four important categories.

(1) Liquidity Ratio

(2) Leverage Ratio

(3) Activity Ratio

(4) Profitability Ratio

Mainly the related ratios with cash management have been used to analyze the financial condition of the firm which is mentioned above.

Statistical Tools:

Following statistical tools & methods have been used to analyze the data:

1. The least square method:

The least square method is one of the time series analyzes which gives on the time value of money which forecasts future events of a variable over a regular interval of time based on the past trend of the variable. In this method, a trend line, Yc = a + bx, is fitted to the given data such that.

ϕ¥ Z¥*c* X*o* / or ϕ∱¥ Z¥*c*Å is least.

Where, Y = Actual value of Y

Yc = Computed values of Y

a= Constant which is the computed Y – value when X=O

b= Constraint which is the change in Y corresponding to the change in X by one unit & X = Time in case of time series analysis.

The value of ‘a’ and ‘b’ can be found out of using following normal equations:

$$\sum Y = Na + b\sum X$$

$$\sum XY = a\sum X + b\sum X^2$$

Where, N is the number of years or any period for which the data are given.

The normal equations are obtained by using tow conditions and some mathematical manipulations.

To simplify the calculation of mid point in time is taken as origin, so that $\sum X = O$.

Then, the above two normal equation will be reduced to

$$\sum Y = Na$$

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

$$\sum XY = b\sum X^2$$

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

2. Standard Deviation (S.D)

Standard Deviation measures scatter spread or variation and provide idea of homogeneity or heterogeneity of the distribution. Out of various method of studying dispersion such as Range, integrative range and quartile deviation, mean deviation, standard deviation and variance, Lorenz Curve, the most popular method is the standard deviation (S.D) and variance method standard Deviation is represented by the symbol sigma i.e. σ and is calculated by applying following formula.

$$\sigma = \sqrt{\frac{\sum d^2}{N}}$$

Where, $x = X - \overline{X}$

N= Number of observation, or time period

$\overline{X}$ = Mean actual

It can also be computed as follows:

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

Where, d = X-a & a= Assumed mean

In this dissertation or thesis work while computing standard deviations, the above formula has been employed only once manually. For rest of the computations, Microsoft excel work sell too has been employed directly from computer. In conjunction with standard deviation, coefficient of variance (CV) is also computed which is the relative measure based on standard deviation and is defined as the ratio of the standard deviation to the mean expressed in percent.

Coefficient of variation (CV) is computed by using following formula:

$$CV = \frac{\sigma}{\overline{X}} \times 100\%$$

The ratio $\frac{\sigma}{\overline{X}}$ is called the coefficient of standard deviation. CV has no units. Distribution with lower C.V is said to less variable (or more consistent or more uniformity) and the distribution with higher C.V is indicative of more variable or less consistent or less uniformity.

The limitation of using C.V is that when the distributions beings compared have negative observation it provide un reliable way to compare variability's across data sets.

3. Lorenz Curve

Lorenz curve is a graphic method studying dispersion in a distribution. Dr Lorenz introduced for the first time this method of measuring in the distribution of income and wealth between different countries for different time periods. Lorenz curve is obtained by plotting the cumulative percents of variables values e.g. wealth profit etc. on y-axis and the cumulative percents of the correspond frequencies on x-axis.

4. Regression Analysis and Regression Line

In correlation analysis, the close ness of relationship between two variables is established. In regression analysis is the statistical method for determine the nature of relationship that Exist among two or more variables and then using that relationship to make estimates or predictions. The relationship between two variables, more accurate estimated value.

The unknown variable is to estimated is called dependent variable and the know variable is called in dependent variable (explained variable and explanatory variable).

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

Regression line of X variable on y variable is given by:

$$X - \overline{X} = r\frac{\sigma x}{\sigma y}(y - \overline{y})$$

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

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

σx = Standard deviation of X variable

σy = Standard deviation of y variable

r= Karl Pearson's coefficient of correlation

Like wise, the regression line of y variable y on X variable is given by

$$Y - \overline{Y} = r \frac{\sigma y}{\sigma x}\left(X - \overline{X}\right)$$

Correlation Coefficient:

Definition of Correlation:

In the word of A.M Tuttle, “Correlation is an analysis of the co-variation between two or more variables.”

According to Craxton and Cowden, “When the relationship is of a quantitive nature, the appropriate statistical tool for discovering and measuring the relationship and expressing it in a brief formula is know as correlation.”

W.A. Neiswanger defined as, “Correlation analysis contributes to the understanding of economic behavior aids in locating the critically important variables on which others depends, may reveal to the economist the connection by which disturbances spread and suggest to him the paths through which establishing forces may become effective.”

“The effect of correlation is to reduce the range of uncertainty of our prediction.”

In order to test the significance of the relationship in between tow variables during the period of the study, Karl Pearson’s correlation coefficient (r) is used.

Karl Pearson’s correlation coefficient (r)

Karl Pearson’s correlation coefficient know as Pearsonian correlation coefficient between two variables (series) x and y, usually denoted by r (x, y) or rxy or simply r is numerical measure of liner relationship between them and is defined as the ratio of the covariance between x and y, written as covariance (x, y) to the product of the standard deviations of x and y.

Karl Pearson’s correlation coefficient (r) is calculated as

$$r = \frac{\Sigma d \times \Sigma dy - \frac{\Sigma d \times \Sigma dy}{N}}{\sqrt{\Sigma dx^2 - \frac{(\Sigma dx^2)}{N} \quad \Sigma dy^2 - \frac{(\Sigma dy)^2}{N}}}$$

Where,

X = the first variable

Y = the next variable

N = No, of years (observations)

dx = deviation from assumed mean of first variable

dy = deviation from assumed mean of first variable

dy = deviation from assumed mean of second variable

Probable error: (P.E)

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

If r is less than its P.E, it is not at all significant if r vs more than P.E there is correlation; if r is greater than 6 than it PE and greater than + 0.5 than it is considered significant.

The all above ratio and significant test are done in the next chapter.

If two variable X and Y very such that change in one accompanies the said to be correlated. Such correlations are said to be positively correlated if increase in x result increase in y and decrease in x follows decrease in y – like wise, such correlations are said to be negatively correlated if increase in y results decrease in y and decrease in x follows increase in y.

Correlation analysis refers to the statistical technique, which measures the degree of relation ship or association between the variables. To put it differently, it helps in analyzing the co-variation of two or more variables. It is to be noted that a high degree of correlation between two variables doesn’t necessarily imply causation while causation always implies correlation out of several methods of computing correlation Karl Pearson's coefficient of correlation is one if the best and popular methods. Karl Pearson’s coefficient of correlation (r) measures the degree of association between the two variables noted x and y variables given by

$$r \, \mathrm{X} \frac{\phi UV}{\sqrt{\phi U^2 \phi V^2}}$$

Where,

r = Karl parsons coefficient of correlation

U = X- $\overline{X}$

V = Y - $\overline{Y}$

$$\overline{Y} = \frac{\phi Y}{N}$$

N= Number of time period or years.

However, in this work, while computing correlation coefficient, the above formula has been used only one manually. For rest of the computations Microsoft excels worksheet tool has been employed directly from the computer. The value of r lies between + 1 to – 1.

Value of + 1 refers to highly positive correlation between the variables i.e. one variable is directly proportional to another, or in other words, increases in one variable lead to decrease in another variable and vice- versa.

Like wise, value nearing to zero’ o refers to existence of no correlation between the variables, i.e. increase or decrease in one variable results no impact on another variable and vice – versa. Together with Karl Pearson’s coefficient of correlation, probable error (PE) of the correlation coefficient is also computed. This probable error of the correlation coefficient is the basis for the interpretation of its value it is given by:

$$P.E \, \mathrm{X} \frac{0.6745 \, \mathrm{Z}(1 \, \mathrm{Z} r^2)}{\sqrt{N}}$$

Where,

P.E. = Probable error of correlation coefficient

N = Number of pair of observations

r = correlation coefficient

When r < P.E, the value of r is not statistically significant at all, i.e. there is no evidence of correlation.

When, r > 6 (PE), the value of r is certain.

But when P.E L r > 6 (P.E) the value of r is inconclusive as to statistically significant/insignificant correlation.

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

r + P.E upper limit

r- P.E lower limit respectively.

But when 'r' is negative value i.e. -1≤ r <o in order to compare r with P.E which is always in positive value, r modulus /r/ is calculated /r/ is nothing but it is the positive value of /r/ it self.

For instance, if r is calculated as

r = - 0.5 then

(r) = 0.5

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

Define the key terms:

It is better to define some key terms to avoiding misunderstanding. Annual reports of general audit of Government and securities board punish its own format of financial data. They have more or less uniformity to record these financial records. Here these key terms are briefly described.

Sales: Sales includes only trading sales, not of sales of assets.

Current Assets: Current Assets include cash in hand or bank receivable, inventories and miscellaneous current assets.

Current liabilities:

This term includes accounting reserve and provision created for specific purpose that ignore general reserve and reserve for contingencies.

Equity: In to the equity, equity capital, reserve and surplus.

Capital: This term includes equity item plus long term debt.

In to the cash, cash in hand, cash at bank and cash in transit are included,

Working capital: The term working capital here refers to the grass working capital it induces the total value of current assets which are discussed on point one net working capital:

Fixed assets: consist of the assets of the company like site development, land, building, plant and machinery furniture and fixture, water supply systems office equipments, computer, vehicles etc.

Total assets: In includes the total of current assets, net fixed assets and miscellaneous assets. This includes the capital expenditure in progress.

Receivables: It includes the sales debtors & other debtors.

Inventory: It includes the raw materials at cost, scrap raw material at direct standard cost, work in progress at direct standard cost, stores and spares at cost and finishes goods at direct standard costs.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

For the achievement of the pre-mentioned objective about the cash management of DDC, this study is starting in this chapter the analysis for the study are current assets composition, investment in current assets, current assets relationship with fixed assets, turnover position, liquidity position and profitability position are done.

There has been used some statistical and financial tool for data processing procedure and also collected data and literatures have been processed on the basis of their importance and authenticity for the study. Information has analyzed qualitatively. The data gathered from interviewee, semi-structured questionnaire observation and other various sources have been presented in the data flow diagram entry relationship diagram, flow chart and other various management science tools. Less significant data has been ignored and some data has been sorted out from available data. There might be difficult to analyze and interpret gathered data and information. Such a major aspect of this research is to find out the present condition of information system in DDC.

With reference to the research methodology, the researcher to present and analyze the existing and proposed system has used different tools and techniques. According to Chinese proverbs "A picture is worth a thousand words". But it's rather important to know which picture and which low words. There is no question that graphical tools provide excellent pictorial patterns that readily depict procedural detail. However, if graphical tools are miscued, the wrong picture may lead to the wrong software.

Tools and techniques used are as follow.

i) Tables and figures
ii) Flow charts
iii) ER diagrams
iv) Data flow diagrams

i) Tables and Figures

A table is a presentation of data in column and row form. Typically tables are used to present the data and information to make the content clear where as the term figure usually includes graphs, maps, drawings & charts.

ii) Flow Chart

The follow chart is a means of visually presenting the flow of data through an information processing systems, the operations performed within the system and the sequence in which they are performed. Basically our concern is with the program flowchart, which describes what operations (and in what sequence) are required to solve a given problem. It is also helpful during the input/ output design and prototyping phases, as they serve as an outline of the exact inputs required and outputs expected. This helps complete the design process as we not know what is done in each phase but we can anticipate what will be needed to do the job as well as what will be the output and what the different forms of those outputs are expected and desired. Basic flowcharting shapes, which are essential to represent different types of action or steps in a process, are shows below:

Start/End	The terminator symbol marks the starting or ending print of the system. It usually contains the word "start" or "End"
Action or process	This represents a single step or and entire sub-process within a larger process.
Document	A printed document or report
Decision	A decision or branching point lines representing different decision emerge from different points.
Input/output	Represents material or information entering or leaving the system.
Connect	Indicates that the flow continuous on another page, where a matching symbols have been placed.
Flow →	Lines indicate the sequence of steps and the direction of flow.

iii) ER Diagram

Entity relationships diagram is a method of analyzing information acquired in the process of system investigation. An entry model shows diagrammatically the relationship between sets of entry types or in fact between anything of interest to the business. The main advantage to construct entry models is that it represents conceptual data model independent of a specific database model.

Notations used in E-R Diagram are

Entity	An entity may be a person, place, object, event or concept in the user environment about which the organization wished to maintain the data.
Relationship	Relationship is the glue that holds together various components of an E-R model. A relationship is a association between the instances of one or more entity types.
Attribute	Each entry type has asset of attributes associated with it. An attribute is named properly that is of interest to the organization

iv) Data Flow Diagram

Data flow diagram is a means of representing a system at any level of detail with a graphic network of symbols showing data flows, data stores, data processes and sources/ destinations.

The purpose of data flow diagrams is to provide semantic bridge between users and system develops. The diagram is:

- Graphical, eliminating thousands of words;
- Logical representations, modeling what a system does, rather than physical methods showing how it does it;
- Hierarchical, showing systems at any level of detail, and
- Jargon-less, allowing user understanding and reviewing.

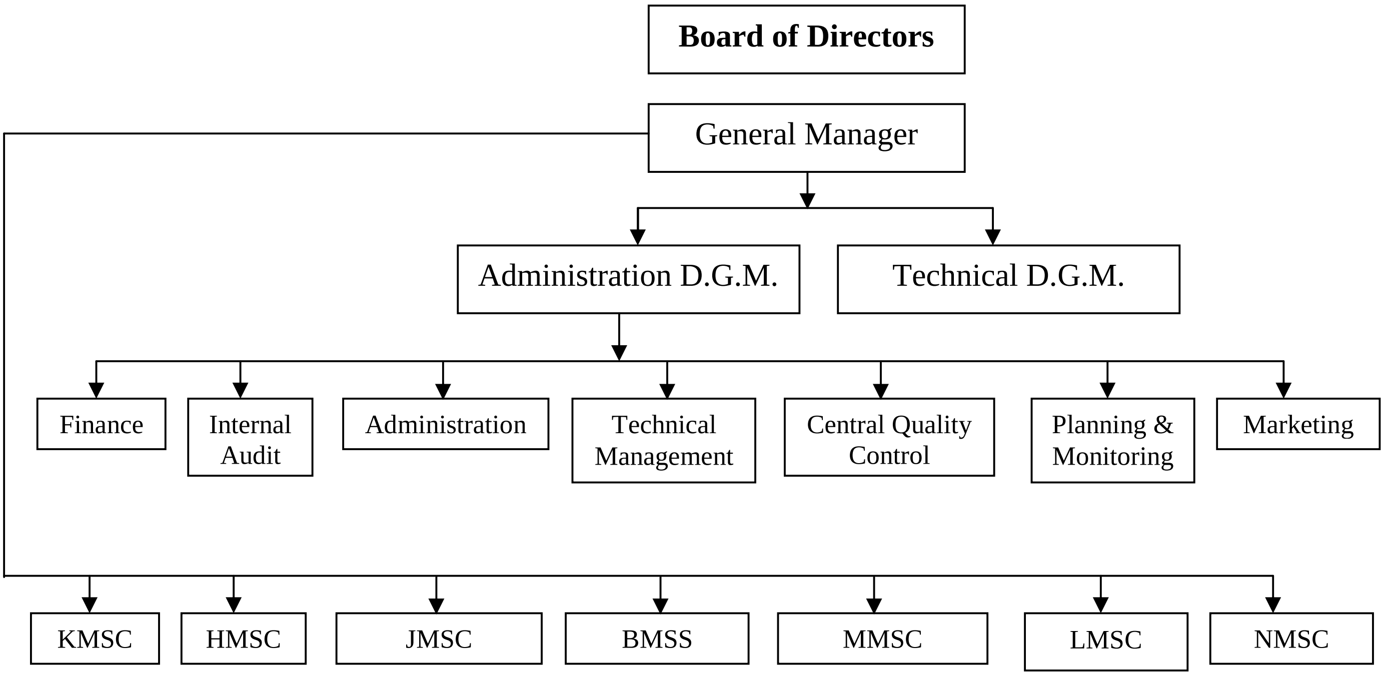
The goal of data flow diagram is to have a commonly understood model of a system. The diagrams are the basis of structured system analysis. Data flow diagrams are supported by other techniques of structured systems analysis such as data structure diagrams, data dictionaries and procedure representing techniques such as decision tables, decision trees, and structured English.

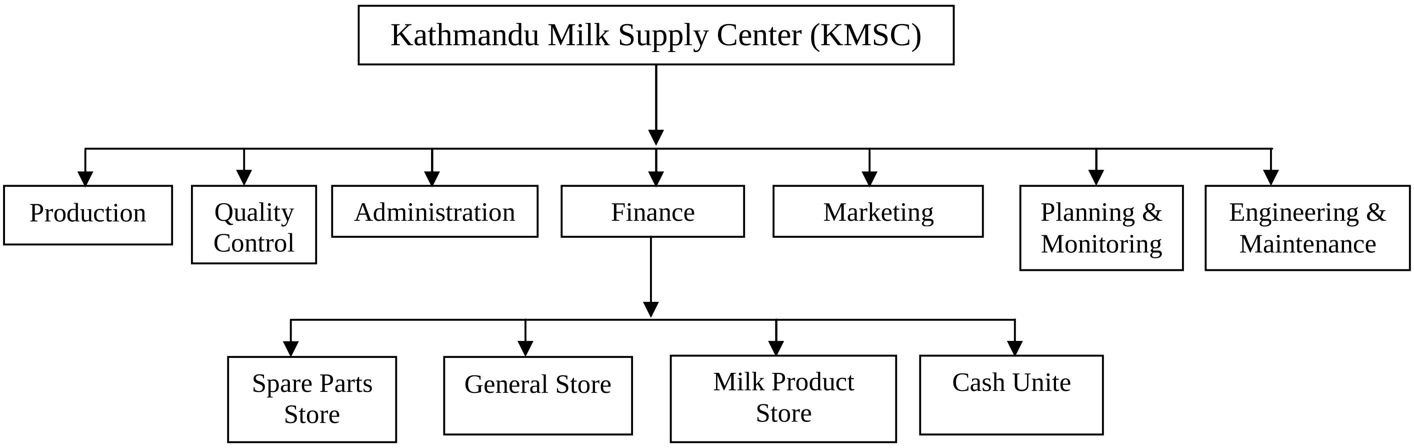
The symbols used by Demarco in the designation of DFD for a system, which has been also applied in this research work, are shown below:

External entity	External entities are outside the system but they either supply input data into the system or use the system output. They may be an organizations customer or other bodies with which the system interacts.
Data flow →	Data flow model is the passage of data in the system and are represented b lines joining system components. At can take place between two process, from data store to a process, from a source to a process, and from a process to a sink.
Data store	Data store is a repository of data. It contains data that is retained in the system. Processes can enter data into a data store or retrieve data from the data store.
Process	This shows what system do Each process has one or more data inputs and produces one or more data outputs. Each process has a unique name and number that appears inside the circle.

Consists of organizing, tabulating and performing statistical analysis. The chapter first explains methods of organizing data by tabulation and then placing that data in presentable form by using figures and tables. To meet the aforesaid objectives, in this chapter following financial and statistical tools level has been used. Following is the general picture of this chapter;

4.1.1 Organizational Structure of DDC





Cash and Bank Balance

a. Analysis of cash turnover included regression analysis compulsion of regression coefficients and regression line

b. Analysis of liquidity position of the firm

- ❖ Analysis of current ratio or current assets to current liabilities.
- ❖ Analysis of quick ratio or acid test ratio.

Analysis of Profitability Position of the Firm

c. The main purpose of analyzing the data is to change it from and unprocessed form to an understandable presentation. The analysis of data

- ➢ Analysis of profitability margin ratio
- ➢ Analysis of return on working capital

- ➢ Analysis of net profit after tax to quick assets

d. Analysis of liquidity position in relation to profitability

- ❖ Analysis of correlation between liquidity and profitability ratio
- ❖ Analysis of receivables/debtors turnover ratio

e. Analysis of Receivable/debtors turnover ratio

- o Analysis of inventory turnover ratio
- o Analysis of cash and bank balance to:

-Account receivable -Current assets -Current liabilities

f. Analysis of cash flow statement

- ❖ Analysis of operating activities
- ❖ Analysis of investing activities
- ❖ Analysis of financing activities
- ❖ Analysis of current assets variables: inventory, sundary debtors and advanced deposits
- ❖ Analysis of current liabilities
- ❖ Analysis of cash and cash equivalent held at the end of fys.

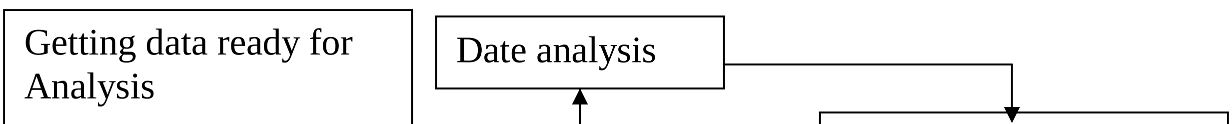
g. Analysis of cash budgeting practice of DDC

- ➢ Analysis of approved budget and expenses
- ➢ Analysis of approved current assets investment Budget and expenses.

It is true that cash is an integral part of working capital management. The effectiveness of cash management practices and policies has both direct and indirect bearing on various aspects of liquid solvency and the management of current assets and current liabilities These tools are indicator of short term as well as long term state of financial health. Attempt has therefore been made to appraise the effectiveness of cash management by using the technique of ratio analysis on the basis of accounting data by keeping view in dairy development corporation and according to available data from dairy development corporation this researcher tries to analyze about cash management system of this organization.

4.1.2 Presentation of Data

The presentation of data is the basic organization and classification of the data for analysis. After data collection is completed the data will be in what researchers call "The Raw Form” the data will still be on questionnaires, data collection forms, and note cards. It is necessary to arrange the data so that is makes some note cards. Different types of data require different methods of summary and presentation. There are a number of methods which can be used to simplify the data. The easiest way to understand data is by examining it in charts, graphs and tables. But even before one can arrange data in tables, it is necessary to rearrange the raw data. The data analysis process is shown in the following



4.1.3 Position of Current Assets

In order to operate smoothly the business organization, different kinds of assets are needed such as fixed assets, current assets, tangible and intangible assets. Basically, current assets are the main ports which are required to run day to day business activities and the total of which is know as working capital as per the gross concept. Its position has become needful to study. Most of the business organization requires some amount of working capital and its requirement different according to the size of the organization.

Table No. 1

Composition of Current Assets

Year	Cash & Bank	Sunday Debtors	Inventory	Other C.A	Total C.A
2057/058	87.50	8.2	70.79	36.51	203
2058/059	87.01	7.36	128.16	23.04	245.57
2059/060	90.68	8.05	140.41	29.52	268.66
2060/061	133.93	3.22	190.19	33.57	360.91
2061/062	183.46	2.62	186.58	39.63	412.29
2062/063	241.71	3.55	188.51	44.78	451.55
2063/064	176.41	3.83	219.05	102.13	501.42
2064/065	189.25	4.61	165.71	85.07	444.64
2065/066	198.65	4.81	156.21	91.1	450.76
2066/067	192.74	1.63	45.19	223.	463.86
Total	1553.87	48.88	1498.8	708.34	3802.66
Average	155.387	4.89	149.89	70.834	380.266

Above table represents the current assets position of dairy development corporation. The above table represents the investment pattern of DDC in current assets and their fluctuation in years as per than overall other CA items.

4.1.4 Analysis of Cash and Bank Balance

Management of cash plays on significant role in current assets of DDC. The total cash includes cash in hand, cash at bank and cash in transit. His chapter shows the cash position of the company during the period under study.

Only by giving focus on cash & bank balance, the analysis of cash and bank balance as been presented in the following Table

Table No. 2

Analysis of Cash and Bank Balance

(Rs. In million)

Fiscal year	Cash and bank balance	Increase / decrease	
		In Rs.	In %
2057/058	87.5	-	-
2058/059	87.01	0.49	0.05
2059/060	90.68	3.67	4.05
2060/061	133.93	43.25	32.29
2061/062	183.46	49.53	26.99
2062/063	214.71	31.25	14.55
2063/064	176.41	38.3	21.71
2064/065	189.25	12.84	6.78
2065/066	198.63	9.38	4.72
2066/067	192.74	5.89	3.05

Sources: Balance sheet of DDC for the relevant year:

Note; Figures with brackets indicates minus.

The cash holding of the corporation shows increasing trend as it increased by 4.05% in 2053/054 as compared to 2058/059, and in 2063/064 declined by 21.71 % as compared to cash balance of 2062/063. But having strong change, in fact, this visualizes that the corporation could not make best use of these available cash balance prudently. There are increase of cash balance up to 32.29 % 26.997 % in the year 060/061 and 2055/056 pm the whole these figures shows no any definite policy of cash management while in some years it has negligible cash balances while in other years it has excessive maintained of cash balance. Moreover the corporation has not planned cash inflow and out flow forecasts. It is of crucial importance for the corporation to keep careful watch over the cash movements of determine how cash throw offs become available and also to investigate the opportunities for the use of cash.

Table No. 3

Computation of Standard Deviation in Cash and Bank Balance

(In million)

F.Y	Cash & Bank balance	X = x-x	X^2
2057/058	87.5	(67.93)	4614.48
2058/059	87.01	(68.42)	4681.29
2059/060	90.68	(64.75)	4192.56
2060/061	133.93	(21.5)	462.25
2061/062	183.46	28.03	785.68
2062/063	214.71	59.28	3514.12
2063/064	176.4	20.98	440.16
2064/065	189.25	33.82	1143.79
2065/066	198.64	43.21	1867.10
2066/067	192.74	37.31	1392.04
N = 10	$\sum x = 1554.33$		$\sum x^2 = 23093.49$

$$Mean\ \bar{X} = \frac{\sum X}{N} = \frac{1554.33}{10} = 155.43$$

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum x^2}{N}} \quad \text{or} \quad \sqrt{\frac{\sum (x-\bar{x})^2}{N}}$$

$$= \sqrt{\frac{23093.49}{10}}$$

= Rs. 48.056 million

Measures of dispersion in cash and bank balance of DDC shows that DDC has been haphazardly holding cash & bank balance with out having speculation. The cash and bank balance held by DDC are sometimes so high and some times so low computed standard deviation has been found Rs. 48.056 million which indicates there is no normal condition of uniformity in holding cash balance in each fiscal year.

Co efficient of variation (CV) also can be computed further test whether the uniformity or homogeneity of cash balance is poor good or excellent or not.

Coefficient of variation (C.V) can be computed by using formula.

$$CV = \frac{\sigma}{\bar{X}} \times 100$$

$$= \frac{48.056}{155.43} \times 100$$

= 30.92% i.e.

Coefficient of variation 30.92% or 0.309

Lower value of coefficient of variation shows the favorable condition or lower C.V indicates higher consistency or higher homogeneity or highly stable cash balance’s. But the higher value of coefficient of variation indicates just opposite situation i.e. lower homogeneity or lower stable cash and bank balance.

(b) Lorenz curve analysis of cash and bank balance.

Lorenz curve is graphic method of studying measure of dispersion in a normal distribution. This method is used to measure in equalities in the distribution of income and wealth between different yearly other basis.

Table No. 4

Calculation of Cumulative Percentage

(Rs. in million)

F.Y	Cum year	Cum % year	Cash & bank balance	Cum. Cash bank balance	Cum %
2057/058	1	10	87.05	87.05	5.6
2058/059	2	20	87.01	174.06	11.20
2059/060	3	30	90.68	264.74	17.04
2060/061	4	40	133.93	398.67	25.66
2061/062	5	50	183.48	582.15	37.46
2062/063	6	60	214.71	796.86	51.28
2063/064	7	70	176.41	973.27	62.63
2064/065	8	80	189.25	1162.52	74.81
2065/066	9	90	198.63	1361.15	87.60
2066/067	10	100	192.74	1553.89	100

Table No. 5

Analysis of Cash & Bank Balance to Current Assets

Year	Cash and bank	Current assets	Ratio %	% change
2057/058	87.05	202.96	42.89	-
2058/059	87.01	245.57	35.43	7.46
2059/060	90.68	268.66	33.75	1.68
2060/061	133.93	360.91	37.11	3.36
2061/062	183.46	412.29	44.50	7.39
2062/063	214.71	451.55	47.55	3.05
2063/064	176.41	501.42	35.18	12.37
2064/065	189.25	444.64	42.56	7.38
2065/066	198.63	450.76	44.07	1.51
2066/067	192.74	463.87	44.55	0.48
Total	1553.87	3802.63		
Average		380.263	40.86	

Formula:

$$\% \text{ of cash \& bank on C.A} = \frac{\text{Cash \& Bank}}{\text{Total C.A}} \times 100$$

Interpretation of Data

From the table, it can seen, that the cash and bank balance with respect to current assets has fluctuating year after year. In year 2059/060 is 33.75 % which is lowest and highest in the F.Y 062/063 that is 47.55 % on average, it is 40.86 %. The cash hold by the company in the fiscal year 2051/52 is 8705 million and it is 12.89 % of its current assets some as cash hold by the firm in the F.Y 053/054 is minimum an its is about Rs. 87.01 million, which is only 35.43% of its corresponding current assets. The proportion is the fiscal year of this study period is 40.86 % and it is 155.38 million and in the F.Y 060/061 it is directly fall down by 1.68 % after Rs. 133.93 million, which is only 37.11 percent of its corresponding C.A. The higher ratio indicates the inefficient might and will certainly loses the profits and seems unsound during the FY 2063/064 12.37% if cash balance is inadequate it may push the company in liquidation.

Total assets = Fixed assets + total current assets

(d) Percentage Cash and of Bank Balance to Total Assets:

The problem of liquid cash in comparison to total assets shows the investment in cash out total assets. Higher ratio decrease the risk and provide more working capital but the excess cash earns nothing the profitability would decrease the following table below showing the percentage of cash and bank balance to total assets.

Table No. 6

Analysis of Cash and Bank Balance to Total Assets

(Rs. in million)

Year	Cash and bank	Total assets	Ratio %	% change
2057/058	87.05	639	13.62	-
2058/059	87.01	687.5	12.65	(0.97)
2059/060	90.68	687.7	13.18	0.53
2060/061	133.93	725.8	18.45	5.27
2061/062	183.46	785.2	23.36	4.91
2062/063	214.71	801.2	26.79	3.43
2063/064	176.41	823.2	21.43	(5.36)
2064/065	189.25	738.1	25.64	4.21
2065/066	198.63	737.01	26.95	1.31
2066/067	192.74	768.75	25.07	(1.88)
Total	1553.87	7393.46		-
Average	15.387	739.346	21.02	

$$\text{Cash to total assets} = \frac{\text{Cash \& Bank}}{\text{Total assets}}$$

The above table shows the investment in cash out of its total assets in DDC during the period of study of ten years. The ratio is 13.62 % percent in the F/Y 2057/058 and it is decreased by 097 % in the fiscal year 2058/059 and there after it is decreased by 0.53 % and reached 3.43 % in the F.Y 2062/063 further in the F.Y 2063/064, it is again fall down by 5.36 % and shows that the management attitude towards the risk. During the overall period the average ratio is found to be 21.02 percent.

4.1.5 Analysis Cash Turnover Ratio

Cash turnover measures the relationship between level of cash and volume of sales over a period of times; it is one of the main parts of current assent which has greater value to meat the current obligations occurred in the business. The greater the sales volume the better the cash turnover would be provided the cash balance is maintained at a desirable level. The following table shows the cash turnover position of DDC during the period of study.

Table No. 7

Computation of Cash Turnover Ratio

Year	Sales	Cash and bank Balance	Ratio (times)
2057/058	880.40	87.05	11.11
2058/059	1053.76	87.01	12.11
2059/060	1274.10	90.68	14.05
2060/061	1278.19	133.93	9.54
2061/062	1387.36	183.46	7.56
2062/063	1348.39	214.71	6.28
2063/064	1484.77	176.41	8.42
2064/065	1548.23	189.25	8.18
2065/066	1595.90	198.63	8.03
2066/067	1535.8	192.74	7.97
Total	13386.9	1553.87	8.61
Average	1338.69	155.387	8.61

Formula: $\text{Cash turnover} = \frac{\text{Sales}}{\text{Cash Balance}}$

As per the table, the cash turnover shows a wide variation during the study period of DDC cash turnover reached peak of 14.05 times in the F.Y 2059/060 and 9.54 in F.Y. 2060/061. This there is not rational relationship between sales volume and cash balance in the sense that increased sales possessed decreased cash balance and vice versa. However, the overall cash turnover are higher than standard and indicate good management of cash while think that there might be sufficient cash balance in the company and there is not liquidity crisis. The corporation has able to make 11.11 times turnover in the fiscal year 2057/058 and it has increased to 14.05 times in the fiscal year 2059/060. In the fiscal year 2060/061 the cash turnover position has been decreased to 9.54 times and in the F.Y 2062/063 the cash turnover is decrease to 6.28 times, where the company has maintained only Rs. 155.387 million of cash balance. So the average turnover position has found 8.61 times. It is due to fluctuating amount of sales volume.

4.1.6 Analysis of Account Receivable to Cash and Bank Balance of DDC

The corporation sells its products to its customers. Cash and Bank balance measures the relationship between level of cash and bank to account receivable over a period of time. The greater the account receivable the better the cash turnover would be provided that cash and bank balance can be maintained at a desirable level. The following table shows the relationship of A/R to cash and bank balance.

Table No. 8

A /R to Cash and Bank Balance of DDC

(Rs. in million)

Year	A/R	Cash and Bank	% of MR
2057/058	8.21	87.05	9.43
2058/059	7.36	87.01	8.46
2059/060	8.06	90.68	8.89
2060/061	3.22	133.93	2.40
2061/062	2.63	183.46	1.43
2062/063	3.55	214.71	1.65
2063/064	3.83	176.41	2.17
2064/065	4.61	189.25	2.44
2065/066	4.81	198.63	2.42
2066/067	2.63	192.74	1.36

Sources: Balance sheet of DDC for the relevant year.

The analysis of above table clearly shows that these fluctuation of cash and bank balance in every study i.e. 87.05, 87.01, 90.68, 133.93, 183.46, 214.71, 176.41, 189.25, 198.63, 192.74 million respectively. During the study period cash and bank balance is minim of A/R. Which show that management is less covered to speed up of collections of A/R. By this situation corporation is suffered the deficit of cash balance to meet its current liabilities and also shows the management has taken liberal credit policy to sale of goods.

Evaluating this situation, cash and bank balance is not satisfactory in corporation to A/R this can be said that higher, A/R caused lower cash balance and vice versa. Maybe this ought to follow stringent credit policy to increase cash balance to maintain at a desired level of cash balance.

4.1.7 Analysis of Investment in Cash and Bank Balance on C.A. & T.A.

Table No. 9

Analysis of Investment Decision

(Rs. in million)

Year	Cash & Bank	C.A	F.A	Total Assets (CA+FA)	% of cash & Bank T.A
2057/058	87.05	202.96	436	638.96	13.62
2058/059	87.01	245.57	441.93	687.5	12.66
2059/060	90.68	268.66	419.04	687.7	13.18
2060/061	133.93	360.91	364.89	725.8	18.42
2061/062	183.46	412.29	372.91	785.2	23.36
2062/063	214.71	451.55	459.65	801.2	26.79
2063/064	176.41	501.42	321.78	823.2	21.43
2064/065	189.25	444.64	333.65	778.29	24.32
2065/066	198.63	450.76	386.07	836.83	23.74
2066/067	192.74	463.87	398.02	861.89	22.36
Total	1553.87	3802.63	3933.94	7626.57	
Average	155.387	380.263	393.394	762.657	20.37

The above table indicates that the cash and bank balance with respect to current assets has fluctuating trend. During the study period it is the lower 12.66% for the year 2058/059 and the highest 26.79 % for the year 2062/063. on an average the projection of cash and bank balance to current the projection of cash and bank balance to current assets for the study period 20.37 % while composing with the average, it is found that the percentage of cash and bank balance to C.A for the year expect. 22.36 % lower. This can be said that the cash position of DDC is not good. Due to lack of good cash management system, DDC should face this type of situation.

The cash and bank balance with respect to total assets has also fluctuating trend. It is the lowest 12.66 % for the year 57/058 and the highest26.79 % for the year 2056/057. It way is because the volume of cash and bank balance is fluctuating in every year. Among the components of C.A cash and bank balance hold the minimum proportion. Cash is required for day to day business operation. Cash shortage of firm means firm is not able to invest in golden opportunities. From the personal contact with the divisional manager, it is known that it is due to improper management of cash of corporation.

4.1.8 Analysis of Cash to Current Liabilities

Among the technique of measuring corporate liquidity the ratio of cash to current liabilities may also be as an index of cash management. This ratio indicates the amount of cash (in%) available to pay the current obligations of the firm. In general a low percentage of cash to current liabilities may be regarded as favorable indicates. However, a very low ratio is also not desirable as it may lead to corporate insolvency.

The table below shows the level of cash's in relation to C.L. of DDC

Table No. 10

Analysis of cash to C.L of DDC

(Rs. in million)

Year	Cash & Bank	C.L	Ratio (Time)
2057/058	87.05	92.5	0.94:1
2058/059	87.01	128.12	0.68:1
2059/060	90.68	155.59	0.58:1
2060/061	133.93	200.78	0.66:1
2061/062	183.46	231.01	0.79:1
2062/063	214.71	268.91	0.80:1
2063/064	176.41	406.14	0.43:1
2064/065	189.25	398.44	0.47:1
2065/066	198.63	387.77	0.51:1
2066/067	192.74	344.83	0.56:1
Total	**1553.87**	**2521.59**	
Average	**155.387**	**252.159**	**0.62:1**

From the above the lower ratio i.e. 0.43:1 for the F.Y 2063/064 and higher rate i.e. 0.80:1 for the year 2062/063. In the year 2063/058, 2064/059, 059/060 2060/061, 062, 064, 065, 066, 067. He level of cash in relation to C.L is 0.68, 058, 0.66, 0.79, 0.80, 0.43, 0.47, 0.51& 0.56:1 respectively.

The ratio is highly fluctuating during the study period. This can be said that DDC has faced the problem of cash management.

4.1.9 Analysis of Liquidity Position

The analysis and measurement of liquidity is an liquidity is an integral part of operational financial planning. The financial viability becomes meaningful only if it is empirically tested regarding how far and to what extent DDC as been able to accomplish the objective liquidity. Since, this is the aspect vitally related to current assets to current liabilities. C.L includes cash & bank balance, inventory, receivables and other miscellaneous Current assets. The current liabilities include creditor's provision for taxation, unclaimed dividend and other misc. Current liabilities. The most important objective of adopting appropriate cash management policy is to maintain appropriate and optimum liquidity in order to enable the corporation to meet current or short those obligations when they become due for payment. So, liquidity position shows the ability to pay the bills since, the study is focused on working capital Mgmt of the corporation. It is appropriate to study the liquidity position of the corporation. Here, the current ratio and quick ratio of the DDC, living the year's period of study are observed.

(a) Current Ratio:

The current ratio shows the ability to payment of arrant debt from current assets. It measures the liquidity position of the corporation. The current assets include cash and bank balance inventory, receivables and other current assets. The C.L includes creditors, cash credit taken, provision for taxation, unclaimed dividend and others. Current liabilities the C.R of DDC for the period of study is calculated in table which is presented below:

Table No. 11

Computation of Current Ratio

(Rs. in million)

Year	C.A	C.L	Ratio (Time)
2057/058	20.3	92.5	2.19:1
2058/059	245.57	128.12	1.92:1
2059/060	268.66	155.59	1.73:1
2060/061	360.91	200.78	1.79:1
2061/062	412.29	231.01	1.78:1
2062/063	451.55	268.91	1.68:1
2063/064	501.42	406.14	1.13:1
2064/065	444.64	398.44	1.12:1
2065/066	450.76	387.77	1.16:1
2066/067	463.87	344.83	-
Total	**3599.67**	**2521.59**	**1.34:1**
Average	**359.967**	**252.159**	**1.43:1**

Formula: $C.R = \frac{CA}{C.L}$

Interpretation

The above table shows that the current ratio of DDC in the year 2057/058 loss 2:19:1 and it is decreased to 1.92:1 and reached up to 1.12:1 in the F.Y 2064/065 further the CR of the firm has gone up to 1.78:1 and in the F.Y. 2062/063. It loses its strength and even reaches to 1.16:1. In the FY 2065/066 the current ratio of fire is highest liquidity position maintained by the company during the study period. The average current ratio of DDC is fund 1.43:1 is not satisfactory. The current ratio is considered as perfect when it comes 2:1 higher C.R indicate higher liquidity maintained by the company or lower risk of technical insolvency. Hence, a relatively high level of C.R is consider as an indication that the company is liquid and has the ability to pay its obligations/ bills. On the other hand, a relatively low value of C/R is considered as an indication that the company will find difficult in paying the bills. The higher the C.R. the greater, the margin of safety, the large the amount of C.A. in relation to C.L the more, the company ability to meet its obligations and string working capital position. The company with less then 2:1 current ratio may be doing well, while companies with 2:1 or even more/higher current ratio may be finding great difficulties in paying bills. This is because the C.R. is a paying their bills quality. In brief, net working capital, as a measure of liquidity, is useful for purpose of internal control. In overall the current ratio of DDC has not found to be satisfactory.

(b) Quick Ratio or Acid /Test Ratio

Quick ratio or acid test ratio is the relationship between quick assets and current liabilities. This ratio is measure of liquidity designed to overall the defect of current ratio. It is measurement of firms ability to convert its current assets quickly into cash in order to meet its current liabilities. The quick ratio of acid test ratio of DDC, during the period of study is presented in the following table.

Table No: 12

Computation of Quick or Acid Test Ratio

(Rs. in Million)

Year	Quick assets	C.L	Ratio (Time)
2057/058	105.02	92.5	1.13:1
2058/059	117.41	128.12	0.90:1
2059/060	128.25	155.59	0.82:1
2060/061	170.72	200.78	0.85:1
2061/062	225.71	231.01	0.97:1
2062/063	263.04	268.91	0.97:1
2063/064	282.37	106.14	0.69:1
2064/065	278.98	398.44	0.70:1
2065/066	294.55	387.77	0.75:1
2066/067	418.77	344.83	1.21:1
Total	**2284.82**	**2614.09**	
Average	**228.482**	**261.409**	**0.87:1**

Formula quick ratio = $\frac{\text{Quick assets Current}}{\text{liabilities}}$

(Quick Assets = Current assets - inventory)

Quick ratio is commonly hold that quick ratio should be 1:1 ie. Liquid assets are less than current liabilities the financial position of the corporation shall be deemed to be unsound and real cash will have to be provided for the payment of liabilities, on other hand. If the ratio is more than 1:1 it can be surmised that the financial condition of the company is sound and good. In the case of DDC, the quick ratio is in decreasing trend in most of the years except the fiscal year 20620/061 during our study period. The average quick ratio under the period of observation is found 0.87:1. In above table no 12, while comparing the ratios with standard norm 1.1 it falls to meet the standards. It is 1.13, 0.90, 0.82, 0.85, 0.97, 0.97, 0.70, 0.75, 1.21. In the preceding fiscal years and 1: 00 in the latter fiscal year. A ratio lower than 1:1 is not good for the company. In term of quick ratios, the lower liquidity maintained in the proceeding fiscal years and only in the F.Y 2066/067 meets its standard norms which is 1:1. The liquidity position of DDC varied widely over a period of time. Working capital is greatly affected by quick assets and current liabilities because. If these are higher quick assets the move will be working capital and less the quick assets result will be vice versa.

Then if current liabilities exceed quick assets the company may suffer from liquidity problem. So the quick ratio of DDC is not seems favorable.

(in order to test the relation ship exists between quick assets and current liabilities, Karl Pearson's correlation coefficient (r) is calculated) correlation coefficient (r) = 0.952 (as calculated on Microsoft excel work sheet).

This shows that there is positive correlation between quick assets and current liabilities.

Compilation of probable error (P.E)

Formula,

$$P.E \text{ X} \frac{0.6745(i \text{ Z} r^2)}{\sqrt{n}}$$

$$\text{X} \frac{0.6745 \bullet 1 \text{ Z} f 0.952 \text{Å}'}{\sqrt{10}}$$

$$\ldots PE \text{ X} 0.0199$$

$$6 \mid P.E \text{ X} 6 \mid 0.0.199$$

$$\text{X} 0.12$$

Now of r > 6 (PE), it is indicative of statistically insignificant positive correlation.

Similarly, if r < P.E, it is indicative of statistically significant positive correlation.

But here, P.E < r > 6 P.E, i.e. (o.952>0.12)

This implies, though there is significant positive correlation between the two variables. There fore, this correlation analysis indicated that the company has been significantly increasing in current liabilities and vice versa. The upper and lower limits of which the correlation coefficient is expected to lie is given by:

Upper limit r + P.E = 0.952+0.0199=0.972

Lower limit r – P.E = 0.952-0.0199-0.93

Hence, the correlation coefficient is expected to lie between 0.93 to 0.97.

4.1.10 Analysis of Turnover Position

By analyzing the current assets, net working capital, cash, receivables and inventory turnover ratios the firms turnovers position i.e.., how many times they are turned in terms of sales are calculated. Here only cash turnover ratio sales to cash and bank balance ratio is mentioned.

(a) Cash Conversion Cycle

Cash turnover measures the relationship between level of cash and volume of sales over a period of times; it is one of the main parts of current assets which have greater value to meet the current obligations occurred in the business. The greater the sales volume the better the cash turnover would be provided that cash balance is maintained at a desirable level. The following table shows the cash turnover position of DDC, during the period of study.

Table No. 13

Computation of Cash Turnover

(Rs. in million)

Year	Sales	Cash & Bank Balance	Ratio (times) cash	conversion day
2057/058	927.9	87.05	10.66	34-24 i.e. days
2058/059	1053.76	87.01	12.11	29.72 i.e. 30 days
2059/060	1274.10	90.68	14.05	25.98 i.e. 26
2060/061	1278.19	133.93	9.54	38.26 i.e. 38
2061/062	1387.36	183.46	7.56	48.28 i.e. 48
2062/063	1348.39	214.71	6.28	58.12 i.e. 58
2063/064	1484.77	176.41	8.41	43.40 i.e. 43
2064/065	1548.23	189.25	8.18	44.62 i.e. 44
2065/066	1595.90	198.63	8.03	45.45 i.e. 45
2066/067	1535.8	192.74	7.97	45.81 i.e. 46
Total	**13434.4**	**1553.87**	**8.65**	
Average	**1343.44**	**155.387**	**8.65**	**42.22 i.e. 42**

Source: profit & loss A/C & B/S of DDC for the relevant year formula:

$$\text{Cash turnover} = \frac{\text{Sales}}{\text{Cash balance}}$$

As per the above table the cash turnover shows wide variations during the study period of DDC. Cash turnover reached to a peak of 12.11 times in the F.Y 2058/059 and 14.05 times in FY 2065/066. Thus, there is no rational relationship between sales volume and cash balance in the sense that increased sales possessed decreased cash balance and vice versa. However, the overall cash turnover are higher than standard and indicate good management of cash while looking at the cash turnover, everyone would think that there might be sufficient cash balance in the corporation and there is not liquidity crisis. The corporation has able to make 9.54 times turnover in the FY 2066/067 and it has decreased by 1.98 times in the fiscal year 2061/062 in the next F/Y 2063/064 the cash turn over position has been increased to 8.41 times and in 2066/067 the cash turnover is decreased to 8.03 times. Where the corporation has in maintained only Rs. 155.387 million of cash balance. So the average turnover position has found 8.65 times it is due to the fluctuating amount of sales volume.

(b) Analysis of Correlation Between Sales and Cash & Bank Balance

To final out the correlation between sales and cash and bank balance, Karl Pearson's co-efficient of correlation (r) is determined. For this purpose actual sales (x) are assumed to be dependent variables and cash and Bank Balance (y) are assumed to be independent variable. It is assumed that the actual sales will increase. It is assumed that the actual sales will increase as cash balance will increase or vice-versa. It means there should be positive correlation between cash balance and actual sales. Significance of correlation (r) is tested with probable error of r.

Table No. 14

Analysis of Karl Pearson's Coefficient of Correlation

(Rs. in million)

fiscal year	**Actual sales (x)**	**Cash Balance (y)**	$U \mathrm{X} x \mathrm{Z} \bar{x}$	$V \mathrm{X} y \mathrm{Z} \bar{y}$	**U^2**	**V^2**	**UV**
2057/058	927.9	87.05	-415.54	-68.34	172673.49	4670.36	28398
2058/059	53.76	87.01	-289.68	-68.38	83914.50	4675.82	19808.32
2059/060	1274.10	90.68	-69.34	-64.71	4808.03	4187.38	4486.99
2060/061	1278.19	133.93	-65.25	-21.46	4257.56	460.53	1400.27
2061/062	138.36	183.46	.43.92	28.07	1928.97	787.92	1232.83
2062/063	1348.39	214.71	4.95	59.32	24.50	351.86	293.63
2063/064	1484.77	176.41	141.33	21.02	19974.10	441.84	2970.76
2064/065	1548.23	189.25	204.79	33.86	41938.94	1146.50	6934.19
2065/066	1595.90	198.63	252.46	43.24	1869.70	1869.70	10916.37
2066/067	1535.8	192.74	192.36	37.35	1395.02	1395	7184.65
n=10	$\phi x \mathrm{X} 13434.4$	$\phi y \mathrm{X} 1553.87$	$\phi U \mathrm{X} 0$	$\phi U \mathrm{X} 0$	**332784.89**	**2315.94**	**8362.009**

$$\bar{X} \mathrm{X} \frac{\phi X}{N} \mathrm{X} \frac{13434.4}{10} \mathrm{X} 1343.44$$

$$\bar{Y} \mathrm{X} \frac{\phi Y}{N} \mathrm{X} \frac{1553.87}{10} \mathrm{X} 155.387$$

Where, Mean $\bar{X} \mathrm{X} \frac{\phi X}{n}$ &Mean $\bar{Y} \mathrm{X} \frac{\phi Y}{n}$

$\therefore$ Karl Pearson's coefficient of correlation (r) $= \dfrac{\Sigma UV}{\sqrt{\Sigma U^2 \Sigma V^2}}$

$$r = \frac{\Sigma(X-\overline{X})(Y-\overline{Y})}{\sqrt{\Sigma(X-\overline{X})^2 . \Sigma(Y-\overline{Y})^2}} = \frac{8362.009}{\sqrt{332784.89 \times 23153.94}} = 0.9527$$

Above calculation show that three is positive correlation between sales volume and cash & bank balance which means the test of significant of the value of r shows that there is a significant relationships between sales & bank banana.

To test the significance of there variable probable error has been calculated by using following formula:

Probable Error (P.E) = $\dfrac{0.6745(1-r^2)}{\sqrt{n}}$

$$= \frac{0.6745(1-(0.952)^2)}{\sqrt{10}}$$

$$= 0.02$$

Since, coefficient correlation (r) > 6 P.E of r the value of r is highly significant so it is no doubt that whether cash balance, will Increase, actual sales will also increase or if cash balance will decrease actual sales also decrease.

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

Upper limit = r + PE = 0.952 + 0.02 = 0. 972

Lower limit = r – PE = 0.952 -0.02 = 0. 93

In this way coefficient of correlation is expected to lie between upper & lower limit i.e. 0.97.2 and 0.93 respectively.

(c) Regression Analysis

A regression line also can be fitted to show the degree of relationship between actual sales and cash & bank balance. Cash balance can be forecasted by the value of actual sales for this purpose cash & Bank balance and actual sales have been assumed Intestate economic variables so the regression line of sales (x) on cash & bank balance (y) is

$$X - \overline{X} = r\frac{\sigma x}{\sigma y}(Y - \overline{Y}) = 0.9$$

Where, $\overline{x}$ = Mean sales i.e. $\dfrac{\Sigma X}{n} = 1343.44$

$\overline{Y}$ = Mean cash and Bank balance i.e. $\dfrac{\Sigma X}{n} = 155.387$

σx = S.D of sales.

$$\sigma x = \sqrt{\frac{\Sigma(X-\overline{X})^2}{n}} = \sqrt{\frac{332784.89}{10}} = 182.42$$

σ_x = Standard deviation of cash and bank balance which can be calculated by using following formula.

$$\sigma_y = \sqrt{\frac{\sum(Y-\bar{Y})^2}{n}} = \sqrt{\frac{23153.94}{10}} = 48.12$$

r= Karl persons coefficient of correlation

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

$$X - 1343.44 = 0.952\frac{182.42}{48.12}(Y - 155.387)$$

$$X - 1343.44 = 3.61Y - 560.8$$

$$\therefore X = 782.64 + 3.61Y$$

This on the assumption that cash balance is function of sales achieved unit Increase m the cash balance sales by 48.12 units. Time element is also an Importable factor with the passage of time the soles achievements and account receivable changes which can be expressed by the component of time series. A straight line trend by the method of least square will show the relations ship between years (time) and ratio in time of account receivable and sales.

Like wise, regression Line of cash balance (y) and sales x can be computed as follows:

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

After putting the value of each variable, only result of value of y will be shown here (by using above some procedure)

$\therefore$Y = -181:98. + 0.2.5X

This shows that cash balance is estimated to Increase by 0.25/ unit of per unit morose in sales volume.

4.1.11 Analysis of Profitability Position

Profit earning is the main objective of every business concern to earn maximum profit or get maximum return on investment. An ability to earn maximum profit for optimum use of available resources by the business organization is known as profitability. Profitability is a measure of efficiency and the search for it provides on incentive to achieve efficiency. The profitability position of a company can be measured by its profitability ratios such as gross profit margin net profit margin, operating ratio return an assets and net worth, return on working capital etc. Among there main profitability measure has analyzed to indicate the profitability position of D.D.C during the period of study.

A. Gross Profit Margin to Sales

Gross profit ratio indicates the relationship between gross profit margin and sales. It is the profit which is excluding the reduction of operating expenses and income tax. The gross profit is obtained by deducting cost of goods gold from net sales which explains the percentage return of gross profit out of total sales. This ratio measures the efficiency of the company and soundness of the management. Higher ratio is a sign of the better efficiency and good management. A low gross profit may reflect higher cost of goods sold due to the company's inability to purchase of favorable terms. The following table presented below shows the relationship between gross profits earned by the corporation during the study period with its sales.

Table No. 15

Computation of Gross Profit Margin Ratio

(Rs. in Million)

Fiscal Year	Gross Profit	Sales	Ratio (%)
2057/058	827.9	927	89.22
2058/059	767.91	1053.76	72.87
2059/060	340.73	1274.10	26.74
2060/061	235.31	1278.19	18.41
2061/062	450.20	1387.36	32.45
2062/063	525.12	1348.39	38.94
2063/064	325.3	1484.77	21.91
2064/065	450.61	1548.29	29.10
2065/066	250.19	1595.90	15.68
2066/067	275.82	1535.81	17.96
Total	**4449.09**	**13434.47**	
Average	**444.909**	**1343.447**	**331%**

Formula: Gross profit margin $\frac{Grossprofit}{Sales} | 100$

The above table shows the gross profit margin ratio is during year after year and in the fiscal year 2061/062 it is slightly increase to 32.45% Higher operating costs bring low gross profit margin a higher gross profit margin is preferable them lower gross profit margin. If the margin is very low, it may be an indicator of lower poor profitability during the period of the study in F.Y. 2065/066.

So, the average gross profit margin of the study is found to be 33.1 percent. The low margin is dangerous for the working capital or cash management of the corporation.

In order to test the relationship between gross profit and sales during the period of the study in DDC Karl Pearson's correlation coefficient (r) is calculated directly through micro soft excel the result is under.

r = 0.45

P.E = 0.29

The above calculation shows that here is positive correlation between gross profit margin and sales. Since the calculated value of correlation (r) is not 6 times greater than P.E, the relationship between gross profit margin and sales is not considered to be significant.

B. Net Profit Margin to Sales

Net profit is the profit which comes after deducting operating expenses and income tax from gross profit. This ratio is the relationship on net profit after fax to sales. This ratio indicates the management ability to operate the business with sufficient success. The ratio of net profit to sales essentially expresses the cost price effectiveness of the operation. The operation expenses mainly affect the net profit of the company. The table no.17 presentable below shows the net profit margin of DDC during the period of study.

Table No. 16

Computation of Net Profit Margin Ratio

(Rs. in million)

Fiscal Year	Net profit after tax	Sales	Ratio (%)
2057/058	10.66	927.9	1.15
2058/059	5.91	1053.76	0.56
2059/060	31.80	1274.10	2.5
2060/061	0.15	1278.19	0.11
2061/062	14.00	1387.36	1.04
2062/063	21.62	1348.39	1.6
2063/064	107.56	1484.77	7.24
2064/065	76.13	1548.23	4.92
2065/066	8.62	1595.90	0.54
2066/067	10.5	1535.81	0.68
Total	**266.63**	**13434.41**	
Average	**26.563**	**1343.44**	**1.98**

Formula: Net profit margin= $\frac{Grossprofit}{Sales} | 100$

Net profit margin ratio indicates the "managements ability' to operate the business with sufficient success not only to recover from profit of the period, the cost of services expenses of operating the business and the cost of borrow funds but also to leave margin of reasonable compensation to the owners for providing their capital at risk.

The above table shows the net profit margin ratio in decreasing condition or the company is suffering in loss except F.Y 2057/058 other in all F.Y. the company's Net profit margin is negative to, (0.56%), (2.5%), (0.11%), (1.04%), (1.6%), (7.24%), (4.92%), (0.54%) and (0.68%), respectively and overall which has found profit after tax is 26.563 million which has found 1.98%.

4.1.12 Operating Ratio

The operating ratio measures the efficiency of the company as regards to minimizing cost. The operating ratio establishes the relationship between total operating expenses and sales volume. It is an important ratio that explains the change in the net profit margin ratio.

Operating ratio is an indicator of operational efficiency. The following table presented below shows the operating ratio of DDC during the period of study.

Table No. 17

Computation of Operating Ratio of DDC

(Rs in million)

Fiscal Year	Cost of good sold & operating expenses	Sales	Ratio (%)
2057/058	917.2	927.9	0.988
2058/059	1073.8	1053.76	1.02
2059/060	1318.3	1274.10	1.03
2060/061	1293.0	1278.19	1.01
2061/062	1412.7	1387.36	1.02
2062/063	1384.7	1348.39	1.03
2063/064	1610.6	1484.77	1.08
2064/065	1616.4	1548.23	1.04
2065/066	1573.4	1595.90	0.99
2066/067	1626.3	1535.81	1.05
Total	**1382.64**	**13434.41**	
Average	**1382.61**	**1343.44**	**1.029**

Formula: Operating ratio = $\frac{\cos tofgoodsold + operating}{sales} \times 100$

The above table shows that the operating ratio of dairy development corporation in fiscal year 2057/058 up to 2066/067 has found 0.988, 102%, 1.03, 1.01, 103, 108, 1.04, 0.99, 1.05 respectively.

Overall operating ratio is 1.029 where s overall cast of good sold with operating expenses is 138.61 in average and sales is 1343.44 in average.

Beside analyze of operating ratio, correlation between sales and expenses should also be analyzed. Normally relation between there two variable should be positively correlation sales and expenses.

Correlation coefficient (r) = 0.98.(as calculated on micro soft excel work sheet)

This shows that these exists positive r between two.

Copulation of P.E

$$P.E = \frac{0.0675(1 - r^2)}{\sqrt{n}} = \frac{0.6745(1 - (0.98)^2)}{\sqrt{10}}$$

$\therefore 6PE = 6 \times 0.0084$

$= 0.0084$

There fore, this correlation analysis indicated that the company has been significantly increasing its sales according with increase in expenses and vice versa.

4.1.13 Analysis of Return of Working Capital (CA)

This is the ratio of return on current assets or working capital employed by the corporation. Return on current assets measures the profit with respect to its total current assets. It provides the utilization of current assets effectiveness. The table presented below the relationship during the period of study.

Table No. 18

Computation of Return of Assent Assets (WC)

(Rs. in million)

F.Y	Net profit after tax	Current assets	% Ratio
2057/058	10.66	203	5.25
2058/059	(5.91)	245.57	(2.40)
2059/060	(31.80)	268.66	(11.83)
2060/061	(0.15)	360.91	(0.04)
2061/062	(14.00)	412.29	(3.39)
2062/063	(21.62)	457.55	(4.78)
2063/064	(107.56)	501.42	(21.45)
2064/065	(76.13)	444.64	(17.12)
2065/066	(8.62)	450.76	(1.91)
2066/067	(14.12)	463.8	(3.04)
Total	**(265.63)**	**3802.63**	
Average	**(26.566)**	**380.26**	**(6.98)**

Above table shows that DDC has not been utilizing its current assets effectively in earning profit. Noticeably in the FY 2063/064 which calls for serious attention. Besides, the overall ratio is dissatisfying. Indicating loss in each fiscal year except FY 2057/058 during this year has significant positive return on working capital with 5.25% in average, overall working capital is disappointing indicating drastic downfall of the company. The average return on working capital has been founded 6.98%.

4.1.14 Analysis of Net Profit After Tax to Quick Assets

We can compute this by dividing net profit after tax (net loss) by quick assets. Higher ratio indicates higher utilization of quick assets in earning profits and vice-versa.

Table No. 19

Analysis of NAPT to Quick Assets Ratio

(Rs. in million)

F.Y	Net profit after tax	Quick assets	% Ratio
2057/058	10.66	132.17	8.06
2058/059	5.91	117.41	5.03
2059/060	31.80	128.25	24.79
2060/061	0.15	170.72	0.87
2061/062	14.00	225.71	6.20
2062/063	21.62	263.04	8.22
2063/064	107.56	282.37	38.09
2064/065	76.13	278.93	27.29
2065/066	8.62	294.55	2.92
2066/067	14.12	418.77	3.37
Total	**269.25**	**2311.92**	
Average	**26.925**	**231.192**	**11.64%**

Formula:

$$\text{Net profit after tax to quick assets ratio} = \frac{\text{Net profit after tax}}{\text{Quick assets}} \times 100$$

From the above analysis of working capital ratio, it found that the ratio has also been found dangerous. The table clearly indicates that utilized quick assets have not been earning profit in each of the F.Y. A view significant positive ratio has been observed in fiscal year 2051/052 with 8.06% others all F.Y the firm has suffering in loss.

4.1.15 Analysis of r between NAPT to QA and Q.A to C.L. Ratio

Here, Karl Pearson's coefficient of correlation between net profit after tax to quick assets ratio and quick assets to current liabilities has been analyzed which ratio is given in the following table. In this analysis, net profit after tax to quick assets ratio has represented profitability ratio and quick assets to current liabilities has represented liquidity ratio.

Table 20

Karl Pearson's Correlation Coefficient

(Rs. in million)

F.Y	NAPT to Q.A. Ratio %	Q.A to C.L. %	$U = x - \overline{x}$	$V = y - \overline{y}$	U^2	V^2	UV
2057/058	8.06	142	-4.34	49.2	18.83	2420.64	-213.53
2058/059	5.03	90	-7.37	-2.8	54.32	7.84	20.64
2059/060	24.79	82	12.38	-10.8	153.26	116.64	-133.7
2060/061	0.087	85	-12.32	-7.8	151.78	60.84	96.096
2061/062	6.20	97	-6.2	4.2	38.44	17.64	-26.04
2062/063	8.21	97	-4.19	4.2	17.56	17.64	-17.59
2063/064	38.09	69	25.68	-23.8	659.46	566.44	-611.18
2064/065	27.29	70	14.83	-22.30	221.41	519.84	339.26
2065/066	2.92	75	-9.48	-17.8	89.87	316.84	168.74
2066/067	3.37	121	-9.03	28.2	81.54	795.24	254.65
Total	$\sum x = 124.047$	$\sum y = 928$			**1486.48**	**4839.6**	**-1310.5**

Karl Pearson's Co efficient of correlation between x and y

$$(r) = \frac{\sum UV}{\sqrt{\sum U^2 \sum V^2}}$$

Where,

$U = X - \overline{X}$

$V = Y - \overline{Y}$

$$\overline{X} = \frac{\sum X}{n} = \frac{124.047}{10} = 12.407$$

$$\overline{Y} = \frac{\sum Y}{n} = \frac{928}{10} = 92.8$$

n= No of years

$$= \frac{-1310.49}{\sqrt{1486.48 \times 4839.6}}$$

=-0.4885

…Karl Pearson's coefficient of correlation (r) = -0.48. This indicates that there exist negative correlation between liquidity and profitability ratio. to put it differently. Increase in profitability indicates decrease in liquidity and vice versa. In fact that since DDC has been operating under loss.

The significance of its negative correlation has been stated that

$$PE = \frac{0.6745(1-r^2)}{\sqrt{n}}$$

$$= \frac{0.675(1-(-0.489)^2)}{\sqrt{10}}$$

$$= 0.16$$

$$\therefore 6PE = 6 \times 0.16 = 0.97$$

Here, r<6PE, it is indicative of statistically in significant positive correlation

Similarly, r>6PE; it is indicative of statistically correlation

This implies, through there exists insignificant negative correlation between the liquidity and profitability ratio. Hence, this proves that practically liquidity has been decreasing with increase in profitability.

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

r +PE=-0.48+0.16=-0.32 (upper limit)

r- P.E =-0.48-0.16=-0.64 (lower limit)

Hence, the correlation coefficient is expected to the between -0.32 to -0.64 by analyzing above data, the analysis proved that the correlation between two is not satisfactory trend because of negative correlation.

Analysis of dispersion in liquidity ratio and profitability ratio.

The measure of dispersion i.e. standard deviation and coefficient of variation has been computed and only result to be shown as follows:

$$S.D = \sqrt{\frac{\Sigma(X-X)^2}{N}} = \sqrt{\frac{1486}{10}} = 12.19$$

$$S.D = \sigma\,(y on x)\sqrt{\frac{\Sigma(Y-\overline{Y})^2}{N}} = \sqrt{\frac{4838.6}{10}} = 21.99$$

$x on y:$

$$\therefore CV = \frac{\sigma}{x} = \frac{12.19}{12.4047} = 0.98$$

$y on x.$

$$CV = \frac{\sigma y}{\overline{y}} = \frac{21.99}{483.96} = 0455\%$$

4.1.16 Existing Cash Management Practices in DDC

Dairy Development is a public Enterprise which is formed according to Co. Act. 2021 and completely owned by government. In order to study about the proper cash management system DDC, Questionnaire has been used for definite purpose, so that it can be easier to know about the actual figure of cash management. Practice in DDC. In the question nave paper also, there are different types of important questions concerning to know about the existing cash management system in Dairy Development corporation. During the data collection period, those questionnaires were put in front of three respondent whose name are as follow:

Ram Bdr. Thapa	(Finance manager)
Shree Ram Shrestha.	(Point Account officer)
Sumendra Kar Shakya.	(Cheif of administrative Dept.)

They all are given much information which is useful to cash management that means there is no significance in reaction from those respondents as per the requirement of each questions. In short, this analysis entirely depends upon the answer of those respondents because they are authorized person having complete knowledge about the financial activities of DDC. By analyzing their views, following result about existing cash management practices in DDC has been found.

DDC doesn't prepare actual typical name of budget separately but the fundamental concept of cash budget has been undertaken only inside the annual budget. Informally which is used to prepare? an annual basis under annual budget as per the views of those respondents. In this way because of the absence of actual amount of cash inflow and outflow during the year perhaps DDC doesn't flow the appropriate method to forecast the cash requirement in DDC which is not effective.

Mostly, DDC rarely takes any advantage of cash discount offered by the supplier and supplier provides 15 days with respect to delay in payments to the DDC. One thing is better which is in favor of DDC that, this corporation is really capable to discharge all short tem liabilities and loans on due dates and next thing is that perhaps DDC doesn't face any shortage of cash up to now. In spite of there is rare chances of incurring costs and losses which DDC associates with cash shortage, but the proper cash management practices in DDC is not effective. DDC has some extent of further practices of holding excess cash and bank balance in current accounts in excess of requirement and having a little practice of checking the adequacy of cash balance as per the requirement of DDC, but there is not found of investing excess cash on profitable opportunity for short term period. Similarly, determining the minimum level of cash balance is the important part of efficient cash management. There are different techniques to determine certain minimum level of cash balance.

The strongest point of DDC concerning efficient cash management system is that DDC prepares financial performance report timely. And at last DDC utilizes its excess cash by depositing only in bank accounts with obtaining few interest and doesn't pay attention towards investing excess cash on profitable sector.

At last by analyzing its existing cash management system we can say that its existing cash management system is very poor. Due to this DDC has suffering from loss and this is the existing cash management system but now computerized system also launched.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The brief introduction of the study. This study focuses on cash management practiced by DDC. The specific objectives of the study are to determine structure and utilization of cash, to estimate the demand of cash and to determine average level of cash.

Since the DDC is one of complex organization of Nepal where implementation of proper management information system is necessary due to the nature of organization and its complexities. In DDC management information system is developed and implemented since its operations to provide systematic and analytical information for its planners and decision makers. The system is based on routine service statistics through which data are regularly recorded at the service centers using pre - designed record keeping formats by DDC service providers. Data recorded in the separated record keeping format such as service register and database software are aggregated into one and forwarded it to the higher authority on a monthly basis. Similarly data are progressively complied at all levels and it ultimately goes to the MIS (IT) section.

The MIS section has been acting as a database, which collects data from the program units and processes it using different tools and techniques for generating final outputs. The final output reports generated at central level propagates strategic plan policy and procedure etc. for the new program to be framed for other ethnic groups/scientist.

The general objectives of this study is to explore the existing structure of the MIS and to expose it to all DDC policy makers and different level managers for improving quality and efficiency of DDC service management. The specific objective is to describe the process by which data are being collected compiled and analyzed assess the quality and timeliness of data currently available to the DDC managers and policy makers, examine how currently available information are being used at different levels, and find out strengths and weaknesses of the MIS.

The research design is exploratory and descriptive in nature. In order to achieve the objective of the study both primary and secondary sources of data were used. Primary data were collected through formal as well as informal discussion with personal of MIS section HR manager and other senior officials of the DDC. The secondary data were collected from review of published and unpublished documents relating to the MIS.

This study is based upon primary and secondary data. It covers ten fiscal years from 2051/052 to 2060/061 has been taken. The first chapter of this study includes general back ground of public enterprises, introduction of DDC statement of the problem focus of the study, objectives of the study, importance of the study, limitations of the study, organization of the study etc. also included. Lastly the scheme of the chapter are presented according to the chapters are planned.

The second chapter i.e. reviews of literatures gives the concept of cash management, where different views of different books, writers are reviewed. Then the journals are articles published by different management experts which are available also reviewed in order to fulfill the basic need of the study. Further the available dissertations in the context of cash management from various researcher re reviewed where the major findings and conclusion, tools used for analysis and recommendations made are accordingly included.

The corporation is suffering from missing requests of financial planning to the extent that its ability to manage cash is found to be not satisfactory and encouraging, so here the researcher has endeavored to make study on cash management system of dairy development corporation.

It is already mentioned that the major objectives of this study is to examine the management of cash in DDC. To fulfill this objective and other specific objectives as described in chapter one, an appropriate research methodology has developed which include the ratio analysis as a financial tools and correlation coefficient as a statistical tools. The major ratio analysis consists of the current Ratio, Quick Ratio, cash to current assets ratio, cash to current liabilities ratio, cash to total assets ratio, cash turnover ratio profitability ratio etc or in short it consist liquidity ratio, leverage ratio, activity ratio. Profitability ratio which are student in the chapter four.

In order to test the relationship between the various components of cash management Karl Persons correlation coefficient r is calculated and result is described in chapter four. The necessary data are derived from the balance sheet and profit and loss account of the dairy development corporation with the help of methodology described in chapter three, these data are presented and analyzed in chapter four. Now in this chapter an attempt has been made for dairy development corporation and summary, conclusion and recommendations.

5.2 Major Findings

The major findings of this study during the study period in dairy development corporation from the analysis are summarized below:

1. The major components of current assets in DDC are cash and bank balance, sundry debtor's inventory and other current assets. During the period of study the proportion of cash and bank balance sundry debtors inventory and other current assets on an average are 40.86%, 1.29%, 39.41%, 18.63%, respectively. There fore, it is found that the current assets, inventory holds the largest portion followed by cash and bank balance other assets sundry debtors and inventory respectively.
2. The overall proportions of current assets on total assets are increasing year after year during the period of study. It increased from 40% to 59% with an average of 47% every year similarly the proportion of current assets on net fixed assets are also increasing year after year during the study period. The ratio of current assets to net fixed assets are also increased year after year during the study period. The ratio of current assets to net fixed assets are increased from 46.55% to 98.8% with an average of 70.2% each year. This clearly shows that the investment in current assets in high with respect to its total assets and net fixed assets.
3. Dairy Development Corporation doesn't have any definite policy regarding to utilize the cash and maintain cash balance for the year.
4. Dairy Development Corporation maintain about near to half proportion of current asset is cash and bank balance.
5. DDC has not been forecasting cash balance but a little bit taking into consideration to sales revenue which means in some time cash and bank balance has been holding accordance the sales of DDC.
6. Correlation coefficient between cash and bank balance with sales revenue is positive i.e. 0.812 and relation of P.E < r > 6 CP.E indicates statistically significant correlation between both variables.

7. The balance of cash and bank has been found in increasing trend in the earlier stage of the study period by 4.05% to 2699% in F.Y 2053/054 to 2055/056 but in F.Y 2057/058 it decreased by 21.71 % and in F.Y 2058/059 and 2059/060 it has found in increasing trend by 6.78 % to 4.72% and F.Y 2060/061 decreased by 3.05% which indicates the DDC has maintain it cash balance in fluctuating trends.

8. DDC has able to collect sundry debtors timely. The receivable management of the firm has been observed to be lightly satisfactory because of average debtors is turnover ratio is so high with 217.2 times and average collection period for whole of 10 years is 7 days approximately. This is the favorable condition for dairy development corporation.

9. The receivables position with respect to cash and bank balance in DDC, in the first five year of the study period are found in decreasing trend then after increasing in next two year in the ratio with current assets and next two year are found in decreasing position. Similarly the ratio with total assets in the 1st 5 years of the study period are found in decreasing trend and then after increasing till the study period. The position of receivable to cash and bank balance ranging from 1.36 to 9.43. There fluctuating in the position of receivables are affected by the fluctuating sales volume of the corporation.

10. The liquidity position of the firm is analyzed with the current ratio and quick ratio. The current ratio of the corporation is ranging between 1.12:1 to 2:19 in fluctuating trend. The from has able to maintain its current ratio 1.43:1 in an average of the study period. The overall current ratio of the firm has found satisfactory. The quick ratio of the company is ranging between 0.69:1 to 1.21:1 in fluctuating trend. The company has able to maintain its quick ratio 0.87:1 in an average of the study period. The overall quick ratio position of the firm has not favorable.

11. Profitability is the measure of efficiency. The profitability position of DDC has been analyzed from various angles. The gross profit margin and Net Profit margin of the DDC are in decreasing trend year after year then net profit margin reached in negative of study period. The range of gross profit margin is form 89.22% to 15.66% from F.Y. 2051/052 to 2060/061. The operating ratio is fund 1.029 in an average of the study period. The wide different between gross profit margin and net profit margin for the corresponding years and also normal level of operating ratio indicates the operating efficiency seems normal in DDC.

12. From the study it is also found that the total financing, more amount is financial from long term sources of found i.e. general reserve and less amount is finance from short term source of fund i.e. cash credit taken from bank. The fixed assets, permanent CA and some portion of temporary current assets are financed from long term fund and other remaining portion of temporary C.A are finance from short tem sources of fund.

13. No optimum cash balance is maintained. The cash and bank balance with respect to current asset has been fluctuating trend. Similar is the case with respect to the total assets. It doesn't prepare cash flow statement and accurate cash budget.

14. Account receivable or sundry debtors fluctuates moderately and insignificant negative correlation with sales.

15. Current liabilities fluctuate moderately. The standard deviation of Rs. 80.2 million and C.V of 0.42 is indicative of the fact that C.L. fluctuate moderately.

16. The result from utilization of cash, average cash turn over ratio is higher.

17. From the result of simple regression analysis, there are five linear relationships between cash on sales inventory and receivables, there is also statistical significant result.

18. From the fluctuating trend of cash balance. It can be concluded that the DDC has been facing problem of cash management system.

19. Management of cash is an effective and importance function for every organization to achieve the goals and objectives but in DDC the management committee has not paid necessary attention toward the proper management of cash.

5.3 Conclusion

MIS plays vital role in DDC. The managers are able to know the progress, achievement and shortfalls in its service oriented activities at community level through active MIS whatever installed within the organization. The managers are kept alert by providing certain information indicating the probable trends in the various aspects of its programs.

The role of information system has expanded and has become more challenging over the years because of rapid changes and innovations in the concerned area. On the whole the information providers and receivers should maintain the highest level of professionalism and integrity. DDC itself needs to strengthen it governance and accountability by establishing the highest standards of prudent information system and practices.

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

Due to lack of good cash management system DDC did not provide budget sheet of each inflow and out flows in the corporation. Corporation much prepare cash budget to plan for the control cash flow.

5.4 Issue and Constraints

While analyzing the management of cash in DDC some issues and constraints have been noticed which may be described as follow.

1. Absence of forecast plan:

It is observed that the cash budget management is least concerned to forecast of cash for the coming period. Cash forecasting is completely lacking in the corporation. The fluctuating trend of cash deficit reveals the act clearly.

2. The lack of accurate and proper sales forecast is one of the important constraints that affect the financial performance of the corporation. If the corporation forecasts the expected sales accurately. It can manage the various activities

accordingly. For example, it can plan for capital, investment, requirement of current expenses and inventories etc.

3. The quality of management it self is a scarce factor in DDC. The performance of DDC exhibits that the management lacks basic knowledge of financial management.
4. Due to certain constraints in management, DDC denied to provide information except balance sheet and profit and loss A/C of F.Y. 2061/062 and F.Y 2062/063 which are not sufficient for analysis of cash management.

5.5 Recommendations

Based on the findings of the analysis and the issues and constraints mentioned above, some practicable recommendations have been recommended to improve cash management in DDC. In the following ways:

1. Management of cash should be efficient:

DDC should have proper cash planning to estimate the cash receipts and payments. It helps to minimize the problem of excess or deficit cash balance. There should be a policy to have optimal cash management policy. Corporation should first identify the cash needs for operation. For this corporation should consider the various expenses it has to inure such as, purchase of commodities, payments to be made for ways, salaries rent, power etc. In other words, it should forecast the cash needs for trading expenses, administrative and selling overheads for certain period of time, say one month. After identifying the cash needs then the corporation should estimate the cash to be received. It could be estimated with the proper budgeting of cash sales and collection of credits. When the cash flows are forecasted, the corporation should then determine the minimum level of cash balance needed to the corporation. At the some time, the seasonal requirement should also the considered.

2. The corporation needs to operate in a pepper way therefore; it can have lesser operating cost which further maximizes its profitability.
3. A core group should be formed at MIS section including the members from different program divisions/sections to monitor and supervise the MIS activities. The members of core group should split into five subgroups and assign a development region for each sub-group to monitor and supervise MIS activities.
4. DDC should appoint the human resources having strong cognitive power as well as reasoning capability to motivate people for supplying their services rather than creating vague environment in societies.
5. MIS division should be restructure separately to update information received from different program units and send it to the top - level executives in time for making proper decisions and exploring policy and procedures to provide effective services.
6. A large organization generally has information gathering and trafficking problem. This makes the works to be happened slowly. To eradicate such problems DDC should recruit some more IT professionals.
7. DDC should design the MIS according to the needs of the organization so that the system can be handle easily which would reduce manual system as well as reduce usage of non programmable application like EXCEL for data processing.

8. The corporation needs to adopt the match cash management policy instead of adopting conservative cash management policy, the corporation can improve fin its profitability in the short run as well as in the long run.
9. Effective inventory techniques should be introduced in order to mountain good inventory position statistical tools or mathematical tools like inventory ratio must be used in determining the stick to be required in future end to see the position of inventory in the corporation.
10. The working capital should be arranged in such a way that it should generate maximum turnover. The working capital and net working capital are not fully utilized it should be try to utilized them to have a sound turnover position.
11. Optimum cash balance should be maintained DDC has not maintained optimum cash balance. As the size of cash balance directly varies with peak period. Opportunities, the DDC should take all those situations in to the consideration white determining optimum cash balance not only surplus and deficit, during the peak period while in the production phase the corporation should hold more cash to make huge purchase for the fulfillment of domestic as well as international demand.
12. Surplus should be invested in profitable opportunities. Corporation should manage its cash affairs in such a way as to keep balance at a minimum level and to invest the surplus cash funds in profitable opportunities.
13. Cash Budget should be prepared:

Closing balance of cash can be computed by preparing cash budget. For an estimate of closing balance of cash, receipt of cash and payment of cash, a cash budget has to prepare. We can prepare cash budget by considering following steps:

1. Identify the source of cash inflow (receipts)
2. Identify the cash out flow (payments)
3. Find out the closing balance of cash.

Closing cash balance = opening balance + receipt – payment

The specimen of a cash budget is given below:

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