CHAPTER I
INTRODUCTION

1.1 Introduction of the Study

Generally an institution established by law and involved in monetary transaction is called bank, which deals with money and credit. In other words bank is financial institution which accept deposit from the public and give advance to them. In common sense, bank is a financial intermediary accepting deposits and loan offers the widest menu of services of any financial institution. There is several definition of bank by different authors. Some of them are as follow:

According to Oxford Dictionary "A bank is an establishment for the custody of money received from or on its customers, its essential duty is to pay their draft on it, and its profit arises from its use of money left unemployed by them."

According to Dr. Hard "A person or company carrying on the business of receiving money and collecting draft, for customers subject to the obligation of honoring cheques upon them from time to time by the customers to the extent of the amounts available on their current accounts."

As per kent "Bank is an organization whose principle operation is concerned with accumulation for the temporarily idle with money of the general public for the purpose of advancing to other expenditure." So, the bank is financial establishment for monetary transaction. A bank simply carries out the work of exchanging money, providing loan, accepting deposits and transferring the money.

History of Bank

The term "bank" was originated from the Latin word "BACUS", and the Italian word "BANCO", the German word "BACK" and French word "BANKE". Regarding the origin and banking institution in the world, the first bank was established in 1157 A.D as the "Bank of Venice" in Venice Italy. Then after "Bank of Barcelona", "Bank of Lteneva" and "Bank of England" were established in 1401, 1402 and 1694 A.D.

respectively. According to Geoffrey Crowther in the development of banking, "the present day banker has three ancestor of particular note. One of them is the Merchant and the other is gold smith and the money lender. Lending and borrowing are almost old as money itself." Only in nineteenth century, the modern joint stock commercial bank of banking system, developed and spread.

In the context of Nepal, the financial system has no far away history in Nepal. It was started during the period of Rana Regime of Rana Prime Minister Ranodip Singh. "Tejarath Adda" was established in 1993 B.S. it's also known as father of today's modern banking institution in Nepal. Tejarath didn't collect deposit, but gave loan to employees and public against bullion. It rendered good services to the government servant and general public by providing loan at cheaper rate and mobilizing scattered resources from people. There were no any official units for such types of services before the establishment of "Tejarath Adda" . people had to depend on the local gold smith and money lenders who used to charge high interest rate against the collateral of gold, silver, land, houses etc.

Nepal Bank Limited was established in 1994 B.S. is considered as modern bank in Nepal who had a major responsibility to attract people and expand banking system. Nepal Rastra Bank was established in 2013. B.S. by government to manage financial system in proper way all over the country. Since, then Nepal Rastrya Bank being central bank under Act, 2012 B.S. has been functioning as government's bank and has been contribution to the growth of financial sector. Government setup Rastriya Banijaya Bank in 2022 B.S. as a fully government owned commercial bank.

The history of banking in Nepal may be described as a component of gradual and orderly evolution in the financial and economic sphere of the Nepalese life. Bank plays a vital role in the economic development of country especially with developing financial system. Even now the financial system is still in the evolutionary phase. The growth of banking in Nepal is not so long in comparison with other developed or developing countries. Nepal had to wait for a long time to come to the present banking system. The development of any country cannot be imagined without economic activities. The development of banking system is one of the grounds for economic development. So we should take a

bank as strong means for the economic development. The development of a bank is interwoven with the development person, a society and a nation.

Banks are financial services firm performing making other roles in the economy. Their success of failure hinges on their ability to identity the financial services on the public demand produce those services efficiently and sell them at comparative price. A single bank cannot fulfill the customer demand. So there are different types of banks such as Commercial Bank, Central Bank, Development Bank, Export and Import Bank, Cooperative Bank, Merchant Bank etc. here, this study is basically focused on Nabil Bank Limited, which is one of the Commercial in Nepal.

Concept of Commercial Bank

A commercial bank is a profit seeking business firm, dealing in money matters, or rather in matters that claim money. It is a financial institution, which creats demand deposits. A commercial bank holds deposits for individual and business in the form of checking and saving accounts. It is a profit earning organization/institution whose major functions are accepted of deposits, forwarding of loans, money exchange and transfer. Rastriya Banijya Bank is the largest commercial bank which was established in 1966 A.D.

After the restoration of democracy in Nepal, the government adopted the liberalized and market oriented economic policies, which created conductive environment for the development of banking sector. Commercial bank investing the saving's in the productive areas. They help in the formation of capital and also perform an extremely important function of credit creation which helps them in earning profits. They provide short-term loans, medium-term and long-term loans to trade and industry. "Commercial bank refers to such type of bank which deals in money exchange, accepting deposits, advancing loans and other commercial transaction except some special function done by other specified bank such as cooperative bank, agriculture bank and industrial bank. (Nepal Commercial Bank, Act 2031 B.S.)

Commercial banks plays significant role to change and develop the economy. Their operation stabilizes the economy.

In the developing countries like the propensity to save is quite low. This hinders the capital formation and which is a major cause of poor economic condition of the developing countries. That's why the basic problem of the developing countries is raising

the level of saving. Nowadays in Nepal several banks such as Development Bank, Joint Venture Bank, Commercial Bank, Agriculture Bank, Co-operative Bank and so on are coming into existence in quite a few number with the purpose to collect the scattered saving and put them into productive channels. So that the saving will be safety and properly utilized for the all around development of the country. So lastly, commercial banks are banking institution that are geared more toward the lending of money to customer, rather than focusing on generating or raising money. A commercial bank accepts deposits to personal and corporate account, and then uses the combined strength of the deposit to finance loans for individuals and business. This is contrast to an investment bank which focuses on generated revenue through investments. Presently there are 32 commercial banks in Nepal.

Table 1.1 :

List of Licensed Commercial Banks

S.N.	Commercial Banks	Established	Head office
1.	Nepal Bank Limited	1937 A.D.	Kathmandu
2.	Rastriya Banijya Bank Limited	1966 A.D.	Kathmandu
3.	Agricultural Development Bank Limited	1968 A.D.	Kathmandu
4.	Nabil Bank Limited	1984 A.D.	Kathmandu
5.	Nepal Investment Bank Limited	1986 A.D.	Kathmandu
6.	Standard Chartered Bank Limited	1987 A.D.	Kathmandu
7.	Himalayan Bank Limited	1993 A.D.	Kathmandu
8.	Nepal SBI Bank Limited	1993 A.D.	Kathmandu
9.	Nepal Bangladesh Bank Limited	1994 A.D.	Kathmandu
10.	Everest Bank Limited	1994 A.D.	Kathmandu
11.	Bank of Kathmandu Limited	1995 A.D	Kathmandu
12.	NCC Bank Limited	1996 A.D.	Rupandehi
13.	Lumbini Bank Limited	1998 A.D	Narayangadh
14.	NIC Bank Limited	1998 A.D	Biratnagar
15.	Machhapuchhre Bank Limited	2000 A.D	Pokhara
16.	Kumari Bank Limited	2011 A.D	Kathmandu
17.	Laxmi Bank Limited	2002 A.D	Birjung
18.	Siddhartha Bank Limited	2002 A.D	Kathmandu
19.	Global Bank Limited	2007 A.D	Birjung
20.	Citizen Bank International Limited	2007 A.D	Kathmandu
21.	Prime Commercial Bank Limited	2007 A.D	Kathmandu
22.	Sunrise Bank Limited	2007 A.D	Kathmandu
23.	Bank of Asia Nepal Limited	2007 A.D	Kathmandu
24.	Development Credit Bank Limited	2008 A.D	Kathmandu
25.	NMB Bank Limited	2008 A.D	Kathmandu
26.	Kist Bank Limited	2009 A.D	Kathmandu
27.	Janata Bank Nepal Limited	2010 A.D	Kathmandu
28.	Mega Bank Nepal Limited	2010 A.D	Kathmandu
29.	Commerz and Trust Bank Nepal Limited	2010 A.D	Kathmandu
30.	Civil Bank Limited	2010 A.D	Kathmandu
31.	Century Commercial Bank Limited	2011 A.D	Kathmandu
32.	Sanima Bank Limited	2012 A.D	Kathmandu

Sources: www.nrb.org.np

Profile of Nabil Bank Limited

Nabil Bank Limited is one of the Commercial Bank of Nepal. The bank, founded in 1984 has branches all across the nation with its head office in Kathmandu. Nabil bank limited is the first joint venture bank of nepal started operation in 12th of July 1984. The main aim of Nabil Bank of Nepal was to extend the service of international standard modern banking service to various sectors of the society. Nabil Bank is provides a range of commercial banking services through its 44 point of representation across the country and over 170 correspondent banks across the globe. It has largest no of staffs among private commercial banks in Nepal. Most of the branches are at the kathmandu. Nabil Bank is highly successful to created banking habits among the Nepalese people.

The length of time the bank has gone through various experiences and of course through phases of different socioeconomic and political scenarios. Not that the bank had all time smooth goings unhindered. Today it stands firmly as a seasoned organization.

The banks business philosophy is "Your Bank at Your Service" and "Bank of 1st Choice"

Nabil as a pioneer in introduction many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepalese it started and era of modern banking with customer satisfaction measured as a focal objective while doing business.

Operation of the bank including day to day and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit card, state of art, world – renowed software from Infosys technologies system, Banglore, India. Internet banking system and tele-banking system. Nabil Bank's product and services: loan, trade finance, deposit, remittances, cards and ATMs E-banking, clean bills, others.

Nabil Bank Limited

Type	Public (Nepse, Nabil)
Founded	Kathmandu, Nepal, 1984
Headquater	Kamaladi, Kathmandu, Nepal
Key people	Satyendra pyra shrestha (Chairmain)
	Shambhu Prasad Poudyal (Director)
	Dayaram Gopal Agrawal (Director)
	Krishna Prasad Acharya (Director)
	Nirvana Kumar Chaudhary (Director)
	Krishna Bdr. Manandhar (Director)
	Mohiuddin Ahmed (Director)
Industry	Banking
Products	Banks
Website	www.nabilbank.com

Present capital structure of Nabil Bank :

Total qualifying capital:

Authorized	
Core capital	4,318,698,000
Supplementary capital	854,702,000
Total capital	5,173,399,000

When the Nabil Bank established in 1984 under the company act 1964 its equity configuration, showed that Dubai Bank Ltd. Owned 50% equity partner which was transferred to emirates Bank. International Ltd. Later on, emigrated Bank International Ltd. Dubai sold its entire 50% holding to NB Bank Ltd, Bangladesh. So the current configuration is given as follow

NB Bank Ltd. Bangladesh	50%
Nepal Industrial Development Corporation (NIDC)	6.15%
Rastriya Beema Sansthan	9.67%
Nepal stock exchange (Nepse)	4.18%
Nepalese public	30%

Mission of Nabil Bank:

- To be the bank of 1st choice to all the stock holders.
- To be the first choice in meeting the entire financial requirement for the customers
- To be the investment of choice for the shareholder
- Practice total quality management and embrace good governance and the example of model bank for the regulators

Vision:

- A full service bank providing on entire range of products/starting with deposit, visa and master cards.
- Customer satisfaction is the 1st priority of bank
- Employees are treated with respect, good faith and provided equal opportunity
- The bank is transparent in their dealing and conduct

Value:

- Customer oriented
- Result oriented
- Innovative
- Synergistic
- Professional

Focus of the Study

Working Capital Management is a crucial aspect of financial management of an organization. It plays a vital role in every business organization, whether they are trading or manufacturing concerns. It is the life blood and controlling nerve for any type of business because without the proper control upon it no business organization can run smoothly. The management of current liabilities of the business organization is necessary for day to day operations. Thus it plays the key role in the success failure of an

organization. So, proper working capital management or financial decision making is more important in banking transaction for its efficiency and profitability.

Generally, we divide financial management decisions into the management of assets (investment) and liabilities (source of financing) in the long term and short term. Short term financial management is known as working capital management. It deals with management of current assets and current liabilities of a firm. As we know that a firm's value cannot be maximized in the long run unless it survives in the short run. Firms fail most often because they are unable to meet their working capital needs. Consequently, sound working capital management is requisite for firm's survival working capital deals with the matrix of current-assets and current liabilities. The conversion process of current assets that include cash, inventory and account receivable and so on most be quick as possible to get reading available cash within in year to meet current obligation. In a like manner, the current liabilities comprising sundry creditor, account payable, short term bank loan, outstanding expenses etc. must be paid within one year as they become due.

The working capital management of a bank, is different from other type of business enterprise. A bank plays a significant role of fulfiull the requirement of working capital of any other type of business enterprises. It requires efficient management, investment in working capital assets of other business enterprises is a part of current assets a bank's working capital and we can consider deposit and short term borrowing as a part of current liabilities. So, this study is a reference regarding the working capital management or position of bank. The management of working capital plays a vital role of existing of any banks successfully while studies it is the centers the routine day to day administration of current assets and current liabilities. Therefore working capital management is very important of banks or other public enterprises such as:

1. Public enterprises must need to determined the adequacy of investment in current assets and otherwise it could seriously erode their liquidity base.
2. They are required to ascertain the turnover of current assets, which determine profitability of the concerns.
3. They must select the type of current assets, suitable for investment so as to raise their operational efficiency
4. They must find out the appropriate source of funds of finance (current assets)

So, working capital management is to support the long term operation and financial goal of the bank. It affects the organization relationship between risk and return. Working capital is one of the important factors which needed to smoothly move to bank or other organization. It can be evaluated by how to run the banking sector. The present study will try to analyze and examine the liquidity, profitability, debt management of any business cannot run in right way and they cannot achieve objective and goal

1.2 Statement of the Problems

Working capital which is compared as lifeblood of the human beings for any organization. Most of the Nepalese organizations are still facing the problem of working capital management due to the unprofessional human resources. It has various factors affecting the decision managers still focus their attention on the procurement aspect of working capital but not on the efficient utilization of funds defined in terms of working capital. The management of working capital is synonymous to the management of short liquidity. It has been regarded as one of the conditioning factor in the decision making issues. It is not doubt, very difficult to point out as to how much working capital is needed by a particular business organization. An organization, which is not willing to take financial risk, can go for more short term liquidity. The more of short term liquidity means more of current assets and less of current liabilities. So it is very essential to analyze and find out problem and its solution to make efficient use of funds for minimizing the risk of loss to attain profit objective.

The working capital management not only attacks profitability position in the short run but it also effect the survival in the long run of the organization. So every firm must maintained the sound working capital component for the effective and efficient for utilization of funds in business organization.

Nepalese banks or enterprises are not so satisfactory due to their financial composition of performance is very poor. Most of the organizations are operating in losses and such conditions discourage the new investment due to established enterprises financial position. The poor performance of banks atmosphere affects various reason in the internal, external and financial environment. Such problems should be investigated and removed from the organization is the most important to corrective measurement for the

improvement of their performance without effective and efficient financial management the firm is not reach of this target point. In the light of very facts commercials banks are backbone of the country.

Nabil Bank is one of the leading joint venture bank in Nepalese economy providing, wide variety of services. But in today's Nepalese context, banking system is in the excessive liquidity. Banks are flooded with money and there is no place for investment. So being the leading banks of Nepalese economy lot of question occurs that are related with working capital position of this bank.

Nepalese banks or other organization face the various problems to manage the working capital due to the none incoming sectors of non productive sectors.

a. How are the sources of funds created and mobilized?
b. What is the comparative (year-wise) working capital position of Nabil Bank?
c. Is the composition of the working capital of Nabil Bank Limited appropriate?
d. How Nabil Bank manages its working capital to build its image?

Then, opportunities and threats are closely related matter. So, banking sectors also face these types of matters in present situation. Unstable potitical environment, lack of reliable and stable policy and depreciation of risk bear capacity of people are the main problem of banking sectors at the present situation. By entering the numbers of banks

for limited economic sectors is also the barrier of banking sector. Besides them the lack of expensive technology, proper manpower and sufficient capital are current problems of banking sectors.

So this study "working capital management of Nabil bank limited" is essential to analyze the working capital position of the bank to outlet new ideas, provide source of livelihood to professionals of all sectors from management team, customer or policy maker.

1.3 Objective of the Study

The basic objective of the present study are to highlight the working capital management and its effectiveness in Nepalese banks especially the main objectives is to examine the

management or position of working capital of Nabil Bank. The specific objectives of this study are as under:

a. To examine the working capial position of Nabil Bank.
b. To analyze the creation and mobilization of fund in Nabil Bank.
c. To examine the impact of working capital on liquidity and profitability.
d. To analyze the liquidity, assets utilization, long-term solvency and profitability position of the Nabil Bank.

1.4 Need of the Study

Certainly there is an important of any research work to various fields. This study is a conclusion-oriented study. The study of working capital management helps not only to the professional in the industry to have better understanding on the impact of working capital in these firm but also academicians and the researcher who study in these areas. Moreover, it will be more beneficial to further researcher, university's students, financial manager lenders and borrowers, management, policy makers, general interested public and also to Nepal government for making different plans and policies.

The study will be helpful to go deep into the matters of working capital management of Nabil Bank.

It has multidimensional significance, which can be divided into four boarder headings.

a. Its significance to the shareholders: The study will be helpful to aware the shareholders regarding the working capital management i.e. liquidity and profitability of these banks. The comparison will help them to identify the productivity of their funds in each of their banks.
b. Its significance to the management: The study will be helpful to go deep into the matters as to why the working capital management to their bank is better (or worse) than their competitors
c. Its significance to the outsiders: Among outsiders mainly the customers, financing activities, stock exchanges and stock traders are interested in the performance of banks and the customer both (depositors and debtors) can identify to which bank they should go. The financial agencies can understand where their fund is more

secure and stock exchange, stock brokers and stock traders can find out the related worth of the stock of each bank.

d. Its significance to the policy makers: A Policy maker here refers to the government and Nepal Rastra Bank. The study will be help to them while formulating the policy regarding the financial institution like bank

1.5 Limitations of the Study

Limitation exits every where this study is not also and expectation of it. Every study has its own limitation, or the study simply represent the partial fulfillment of the MBS programme. The study will be conducted within certain limitation and constraints.

i. This study based on the data from 2007 to 2011 for 5 year time period.
ii. There are constraints of time & money to conduct depth study in this area.
iii. This study has been limited to the working capital management of Nabil Bank.
iv. The study is basically depends upon annual report, articles and web.sites, authorized by Nabil Bank which are secondary data in nature.

1.6 Organization of the Study

This study has been divided into five chapter. They are as follows:

Chapter I : Introduction
Chapter II : Review of Literature
Chapter III : Research Methodology
Chapter IV : Data Presentation and Analysis
Chapter V : Summary, Conclusion and Recommendation

Chapter one is the introduction chapter, which deals with background of the study, profile of Nabil Bank statement of problems, objectives of the study, need of the study and limitation of the study.

Chapter two is the Review of literature, these chapters analyze working capital management, type of working capital, working capital policy, determinants of working capital, need of working capital, financing of working capital, review of books, review of journals, articles and review of dissertation. The third chapter is the research methodology which deals with research design, nature and sources of data, population

and sample, period covered, data gathering, procedure and tools of data analysis, various financial and statistical tools have been used which are discussed in details in this third chapter.

The fourth chapter deal with the presentation and analysis of relevant data and information though a define course of research design. This chapter is also present the result relating to working capital management.

The last chapter is concerned with the summary of the study, various conclusions are drawn from the study and recommendations are provide for improving the future performance.

CHAPTER – II
REVIEW OF LITERATURE

The study of the past research studies and relevant materials is known as review of literature. It is also known as advancement of existing knowledge and in depth study of subject matter. In literature review, researcher takes hints from past dissertation framework on working capital position and this chapter is basically concerned with review of literature relevant to the topic "working capital position/management with special reference to commercial Bank. There must be continuity in research. This continuity in research is ensured by linking the present study with past research studies. This chapter high-light the literature that is available in concerned subject as to articles review of thesis work performed previously and its provides insight into the finding of earlier studies through the review of books, publication and previous studies related to the working capital management.

2.1 Conceptual Review

2.1.1 Concept of Working Capital

Working capital refers to the firm's short term current assets and current liabilities. Working capital is defined as all short term assets used in daily operation. They consist primarily of cash, marketable securities, account receivable and inventories. Working capital is characterized by its nearness to cash or liquidity of the finished good, inventory, when sold is converted into account receivable. Receivable on collection are transferred into cash the level of investment in working capital is affected by sales volume, production policies and collection policies.

Working capital is a controlling nerve center of every business organization because no business can run smoothly without the proper control upon it. Thus, it plays the role in the success and failure of the organization. As the management of current assets and current liabilities of the business organization is necessary for day to day operation. It plays the key role in the success and failure of the organization not only in the short run, in the long run also. In the concern of the management of working capital there have been made number of studies from different management experts and students

in various enterprises. Most of the chief financial officer's time and efforts are devoted to working capital management. This is defined as the management of all the short term assets used in daily operations. The proper management of a firm's working capital is very much crucial to the financial manager in the competitive scenario. The effective management of working capital is the primary means of achieving the firm's goal of adequate liquidity.

Key chapters concept:

- Working capital management is concerned with the management of CA, CL and interrelationship between them.
- Current assets refer to those assets that can be converted into cash within one year. For example: inventories, cash, marketable securities, and receivables.
- Current liabilities are those liabilities that are paid within a year. For example: account payable, bills payable, bank overdraft, outstanding expenses, etc.
- The basic goal of working capital management is to manage the firm's current assets and current liabilities. What they consist of how they used and how their mix affects the risk versus return characteristics of the company.
- The interaction between current assets and current liabilities is the main theme of the theory of working capital management.
- There are two concept of working capital:
  a. Gross concept
  b. Net concept
- The term 'gross working capital' also refered to as working capital.
- The term 'net working capital' can be defined in two ways:
  a. The must common definition of net working capital is the difference between current assets and current liabilities.
  b. Alternative definition of net working capital is that proportion of current assets which is financed with long-term funds.
- Working capital policy decision include
  a. Investment – Level of working capital
  b. Financing – Proportions of short-term and long term debts.

- Determination of the optimal level of working capital investments involves profitability versus risk trade-off analysis.
    a. Higher levels of working capital generally reduce profitability.
    b. Higher levels of working capital reduce the risk of financial difficulties.
- Determination of the optimal proportions of short and long term debt involves profitability versus risk trade-off analysis.
    a. Higher proportions of short-term debt increase profitability because of generally lower interest cost and vice versa.
    b. Higher proportions of short-term debt increase the risk of financial difficulties and vice-versa.
    c. Overall, working capital policy involves analyzing the joint impact of the working capital investment decision and the working capital financing decision on the firm risk and profitability.
- Alternative working capital investment policies include : aggressive, conservative and moderate policy (Approaches).

So, every Commercial Bank needs various types of assets in order to carry out its function without any interruption. They are fixed and current assets. Some fixed assets have physical existences and required to producing good services over long period. These types of fixed assets are called tangible fixed assets. It included land and building, plant, machinery, furniture and so on. But some other fixed assets do not generate goods and services directly. However it reflects the right of the firm. It is called intangible fixed assets. It represent patents, copyrights, trademarks and goodwill.

Both fixed asset are written off over a period of time. Current assets are those resources of the firm which are either held in the form of case or the business. It includes cash, marketable securities, and account receivable, stock of raw material, work-in progress and finished goods. Among these, some assets are required to meet the need of regular production and some for day to day expenses and short term obligations. Current liabilities are those claims of outsiders, which are expecting to be matured within an accounting year. It includes: creditors, bill payable and outstanding expenses.

Working capital refers to the resources of the firm that are used to conduct operations of day to day activities that make the business smoothly and successful. Without cash bills can not be paid, without receivable and payable the firm can not allow the timing differences between delivery of goods and services and collecting the money to pay for them, without inventories the firm can not engage in production and nor can it stock goods to provide immediate deliveries. As a result of the critical nature of current assets of the management of working capital is one of the important areas in determining whether a firm will be successful. The term working capital refers to the current assets of the firms those items this can be converted into cash within one year. Net working capital defined as the different between current assets and liabilities.

Types of working capital

There are two types of working capitals, variable and permanent working capital. These working capitals are necessary for any organization for continuous production and sales without any interruption.

Variable working capital:-

Variable working capital represents that portion of working capital which is required over permanent working capital. If the nature of production and sales of a firm is directly related to seasonal variation, it should stock extra raw material, work in progress and the inventory of finished goods. Hence, this portion of working capital depends on the nature of firm's production relation between labour and management. If the firm has sound management on this portion of working capital; it can easily win over competitors.

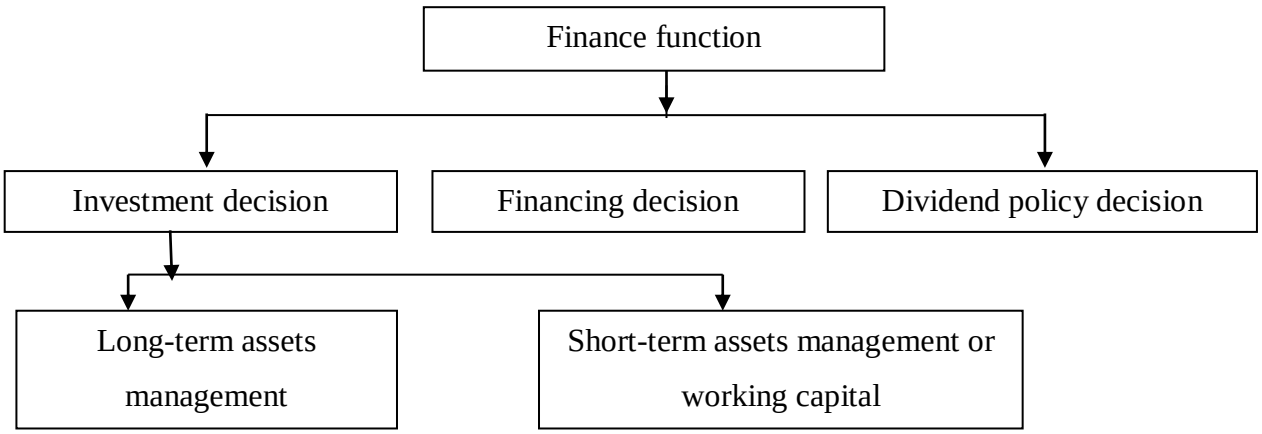
Permanent working capital:-

Permanent working capital refers to that level of current assets, which is required on continuous basics over the entire year. A manufacturing concern can't operate regular production and sales function in the absence of this portion of working function that is why a firm holds certain amount of working capital in order to insure uninterrupted production and sales function. It is directly related to the firm's expansion of operation capacity.

2.1.2 Working Capital Management

The management of funds of the business can be described as financial management. Financial management is mainly concerned with two aspects. Firstly, fixed assets and fixed liabilities. In other words, long term investment and sources of funds, secondly current uses and sources of funds. Both of these types of funds play a vital role in business finance. Normally, the finance function can be divided policy decision. But the most important decision for business investment decision it include the long term assets management and short term assets management. i.e. working capital.

Figure – 2.1
Working Capital Management as a Finance Function



In the word smith, the term working capital management is closely related with short term financing and it is concerned with collection and allocation of resources. Working capital management is related problem that arise in attempting to manage the current assets, current liabilities and the interrelationship that exist between them.

The goal of working capital management is to support the long run operation and financial goal of the business. In effect, this involves recognizing the relationship between risk and return. Three elements must have included in analyzing the trade off between risk and return when managing working capital.

i. Insolvency:- This condition occurs when a firm can no longer pay its bills and must default on obligations and possibility declares bankruptcy: A firm without adequate level of working capital may have faced this risk.

ii. Profitability of assets:- Different types of current assets will have varied effects on profits. A high level of inventory will require high carrying cost. At the same time, the firm will have a wide range of goods sell and may be able to generate higher sales and profit. Each decision on the level of cash receivable and inventory should consider the effects to different level.

iii. Cost of financing:

When interest rate are high, its cost more to carry inventory then when rate are low, large cost is converted into operating assets. The cost of debt and opportunity cost of alternative investments are items to consider when evaluating working capital level.

According to I.M. Pandey (1991:796.797), there are two concepts of working capital gross and net concept. By definition, "gross working capital" consists of the current assets used in operating of the business, which are cash, account receivable and inventories. Current assets are the assets which can be converted into cash within accounting year (or operating cycle).

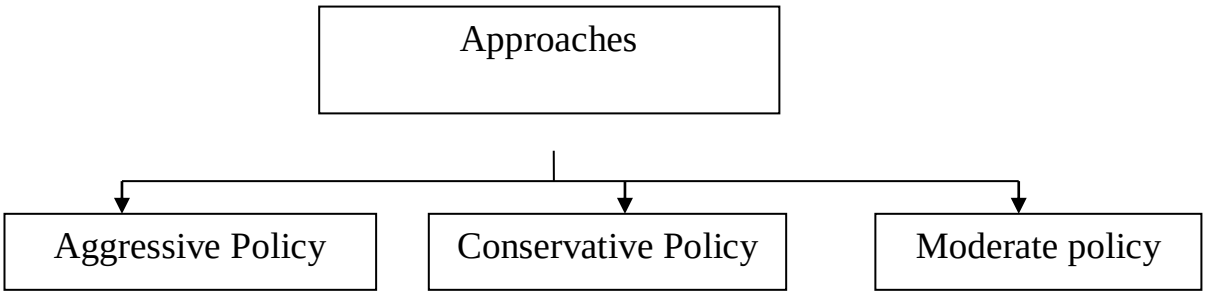
The term net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year and include creditor, bills payable and outstanding expenses. Net working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities and a negative net working capital occurs when current liabilities are in excess of current liabilities. He also added that net working capital concept also covers the question of judicious mix of long-term and short term fund for financing current assets.

Net working capital = current assets – current liabilities

By analyzing the above concept about working capital we concluded that, all the corporations, whether public or private, manufacturing or non-manufacturing have just adequate working capital to serve in competitive market. It is because excessive of in-adequate working capital is dangerous from the firm's point of view. Excessive investment on working capital affects a firm's profitability just as idle investment, yield nothing. In the same way, in adequate investment on working capital affects the liquidity

position of the company and leads to financial embarrassment and failure of the company.

2.1.3 Working Capital Investment and Financing Policies



Aggressive policy

- Under this policy a company holds a lower level current assets, thus it has relatively less net working capital.
- Under this policy a company may be aggressive in financing its assets using move short term financing than average.
- This policy yields a higher than expected profitability (return) and a higher risk that the company will encounter financial difficulties.

Conservative policy

- Under this policy, the company holds a relatively large proportion of its total assets in the form of current assets.
- Meaning that, the company maintains a higher level of current assets that average.
- Under this policy, the company uses more long-term funds than average to finance current assets.
- This policy result in a lower than expected profitability and a lower risk that the firm will encounter financial difficulties.

Moderate policy

- Under this policy, the company holds a moderate level of current assets

- Under this policy assets are financed by short term fund and long term fund equally
- This policy results a moderate ‘level of expected return and risk that the firm will encounter financial difficulties.

2.1.4 Determinants of Working Capital

The entire firm, whether public or private manufacturing or non manufacturing must have adequate working capital to survive in competitive market. It should have neither too excess nor too inadequate working capital. But there are no sets of rules or formula to determine the working capital requirement of a firm. It is because a large number of factors that influence the working requirements of a firm. A number of factors affects different firm in different ways. Internal policies and changes in environment also affect the working capital requirement. Generally the following factors affect the working capital requirement of the firm.

a. Nature and size of organization.
b. Growth and expansion
c. Credit policy
d. Production policy
e. Service policy
f. Availability of credit
g. Profit margin
h. Price level change
i. Operating efficiency

2.1.5 Superiority

No single working capital investment and financing policy is necessarily optimal for all firms/organization. To select the working capital policy that maximizes shareholder wealth, a financial manager should consider additional factors, including the inherent variability in sales and cash flows and the degree of operating and financial leverage employed.

2.1.6 Importance/Needs for Working Capital

Working capital is the life blood and controlling nerve center of every business organization as without the proper control upon working capital no business organization can operate smoothly. That's why important of working capital has increased. A firm must have working capital to operate and survive. In many industries, working capital constitutes a relatively large percentage of total assets. Therefore, it plays a crucial role in the success and failure of the organization. The need for working capital to run the day to day business activities cannot be overemphasized. We can hardly find a business firm which doesn't require any amount of working capital. Indeed firms differ in their requirement of working capital. As we know that business firms aim at maximizing the wealth of shareholder. In its endeavor to do so a firm should earn sufficient return from its operation and activities. The extent to which profit can be earned naturally depends upon the magnitude of sales among other thing capital setter for the constant operation of business, every firm needs to hold the working capital component such as cash, receivable, inventory etc. every business firm needs working capital to meet the following motives.

a) Transaction Motive
b) Precautionary Motive
c) Speculative Motive

Transaction Motive:-

Transaction motive require a firm to hold cash and inventories to facilitate production and sales operation regularly. The cases of bank hold cash to easily provide the services to the customers. Thus the firm needs working capital to meet the transaction motive.

Precautionary Motive:-

Precautionary motive is needed to hold cash and inventory to guard against the risk of unforeseen and unpredictable change in demand and supply forces and other factors such as strik failure of important customers, unexpected slow down collection of account

receivable, cancellation of some other order for goods and some other unexpected emergency. Therefore, the firm needs the working capital to meet contingencies in the future.

Speculative Motive:-

It refers to the desire of a firm to exploit opportunities as opportunity of purchasing raw material at reduced price on immediate payment making investment on lucrative field to speculate on interest rates, to make purchase at favourable price and the like. Hence, the firm and working capital to meet the speculative motive.

2.1.7 Criticism

Working capital is generally defined in financial reports as current assets minus current liabilities. Some refers to this measure as net working capital but if working capital is that amount which is deducting after current liabilities, it is redundant to add the word 'net'

2.2 Review of Journal/Articles

This section is also important of review of working capital. From the study of this section must latest information can be derived about related field. This part is mainly focused on the review of journals and articles published by various management experts in working capital management.

Brain Belt (1976) (theme article), "working capital policy and liquidity in the small business" attempted to place working capital policy in perspective with other policies of the small business. Contrary to common usage, working capital policy should be expressed in terms of asset liquidity, deferability of current liabilities, predictability of sales and composition of financing (particularly debt) rather than in terms of net working capital magnitude (CA minus CL). The distinction is critical for the small business because

1. Initial liquidity is generally poor
2. Postponability of current liabilities is both an unknown and risky elements.
3. Sales predictability – when attempted – is low, and

4. Long-term capital is difficult to obtain. Those interested in maintaining and extending the small business sector should increase interest in this critical area. So this article provided a stepping stone.

M.K. Shrestha (1982) in his study, "Working Capital Management in Public Enterprises" stated that manager often lacked basic knowledge of working capital and its overall impact on the operative efficiency and financial availability of public enterprises. This study was based on sample of ten public enterprises namely Brigunj Sugar Factory, Janakpur Cigarette Factory, Raghupati Jute Mills, Dairy Development Corporation, National Trading Ltd; National Construction Company of Nepal, Royal Drugs limited, Harishiddhi Bricks and Tile factory, Nepal Cheeuri Ghee Industry Limited and Chandeshowri Textile Factory Ltd. The study has pointed at certain policy flows such as deficient financial planning neglect of working capital management. Deviation between liquidity and turnover etc. he had suggested some measures for their effective operation and efficient result. The problem could be sorted out through identification of needed funds, developed of proper management information system, determination of sound combination of short term and long term source to finance working capital requirement.

The study was based on ratio analysis. He had selected different types and nature of PEs. That is why with lower turnover, had higher liquidity position. The author should have selected similar nature of PEs or analysis should have been made separately. He had taken only single year data for the study. But to find the real situation of Pes, it should be more than five year.

K. Acharya (1988), in his article, "The Management of Working Capital in the PEs of Nepal" had described the two measure problems, operational and organization problem regarding the working capital management in Nepalese PEs. The operational problem he found, listed in the first part were increase of current liabilities than current assets, not maintain current ratio 2:1 and slow turnover of inventory. Similarly the change in working capital in relation to fixed capital had very low impact over the profitability, transmutation of capital employed to sales, absence of apathetic management information system, break even analysis, fund flow analysis and ratio analysis were either updone or ineffective for performance evaluation. Finally, monitoring of the proper functioning of working of capital management had never been considered a managerial job.

In the second part he had listed the organization problem in the PEs. In most of the PEs there was lack of regular internal and external audit system as well as evaluations of financial results. Similarly very few PEs had been able to present their capital requirement, in addition functioning of finance department was not satisfactory and some PEs were even facing the problem of capacity underutilization. To make an efficient use of funds for minimizing the risk of loss to attain profit objectives, he had made some suggestions. The PEs should avoid the system of crisis decision which prevailed frequently in their operation, avoid fictitious holding of assets, the finance staff should be acquainted with the modern scientific tools used for the presentation and analysis of data and lastly, he had suggested optimizing the level of investment at point of time. Neither over nor under investment in working capital be desired by the management of an enterprise because both of these situations will erode the efficiency of the concern.

According to NR Agrawal (1998), proper management of working capital must ensure, adequate amount working capital as per need of business firms. It should be in good health and efficiency calculated. To have adequate health and efficient circulation of working capital it is necessary that working capital be properly determinant and allocated to its various segments, effectively controlled and regularly reviewed and "working capital consist broadly at the portion of the assets of the business used in or related to, current operational and represented at any one time of the operating cycle by such items as an account receivable, inventories of raw materials, stores, work-in progress and finished goods, bill-receivable and cash. Assets of this type are relatively temporary nature, since the invested names are normally capable of being recovered or of being change in form within a short period of time, and the time element of ultimate recovery depends on the manufacturing cycle as well as sales and collection cycle."

Weston and Brigham (1997), have given some theoretical insights into working capital management after various research studies on it. The bond conceptual findings of their study provide sound knowledge and guidance for the further study on the field of management working capital in any enterprises and naturally to this study as well. They explain in the beginning, the important of working capital, the use of short term versus long term debt, relationship between current assets to fixed assets. The component of working capital they have deal with current assets which are cash, marketable securities,

receivable and inventory. For the efficient management of cash, they have explained the different cash management model. They have also explained the major sources and form of short term financing. Such as trade credit, loan from commercial banks and commercial paper.

L.D. Mahat (2004), has published an article relating to spontaneous resources working capital management. He has defined the three major source of working capital i.e. equity financing, debt financing and spontaneous sources of financing regarding the working capital management. Debt financing include short term bank financing such as bank overdraft, cash credit, bills purchase and discounting letter of credit etc. whereas spontaneous source of working capital include trade credit, provision and occurred expenses.

Mahat has defined that working capital management is one of the important pillars of corporate finance. However, Nepalese industries are facing difficulty in their survival by the cause of recession, which can bring best and worst in corporate finance such as environment should be efficient enough to cope with possible worst happenings in the future for working capital management. He said that managing the working capital resources for a profit making industries are routing affairs of just making payment and arranging collection of debtors. In contrast, the company in debt trouble, it is rather difficult to meet its working capital gap by way of debt financing, the company should have to bear interest, which may calls to increase in the percentage of operating expenses to the turnover and depletion in the profit. Therefore spontaneous sources of working capital will better to working in other improve its performance.

Consequently, in a changed economic scenario, every company should realize that inability to manage working capital might land them in vicious circle that can be hard to get out from. It is indeed essential for industries to tighten their belts and checks their financial stability to face and stand in forth coming competitive day.

2.3 Review of Books

Some of the books on financial management regarding working capital management have been reviewed here under:

John J. Hampton & Celia L. Wagner (1983): These two chapter wrote a book of working capital management. The book is divided in eight main chapters where the first topic describes about working capital policies, nature of working capital strategies. In the second topic, there contain banking system and under this topic there contain sub-topic of money and its supply, feature of U.S money supply, money creation. Similarly in the third topic managing collections are given. They set six sub-topics of cash management problems, case of Chicago national bank & Olean National Corporation. Thereafter in forth chapter they have prepared commercial bank packages for cash management. In the third part of the book, they have established cash management where cash forecasting techniques are used. By the use of cash flow analysis. In the fifth topic, there contain credit & collection by the analyzing credit capacity of customers, developing credit policies, collection policies and government regulation. Similarly the sixth part includes about the concept of consumer loans, small business loans and credit scoring system. At the last part, the book describes about the inventory management its other important planning implementations through working capital ways. (Hampton & wagner 1983:177-182)

Van Horne (1994) has categorized the various component of working capital i.e. to the way they affect valuation. He has also described the different methods for efficient management of cash and marketable securities and various models for balancing cash and marketable securities. For the management of receivable, different credit and collection policies have been described and various principal of inventory have been examined for inventories management and control. He has written different types of books, articles and other working capital management in board version. He has explained all short term assets namely cash, marketable securities, receivables, inventories and the administration of current liabilities. (Van Horne, 1994:421)

Surendra Pradhan (2000), in his book Financial Management has shed light on financing of working capital. There are two ways of financing working capital requirement i.e. internal and external sources. Internal sources include use of retained earnings, depreciation fund and share capital. External sources include trade credit, advance from customers, short term deposit, cash credit, short term government loan etc.

‘Western and Brigham (1984) have given some theoretical insight into working capital management after their various research studies on it. The bond conceptual findings of their study provide sound knowledge and guidance for the further study on the field of working capital management in any enterprises and naturally to this study as well. They explain in the beginning, the important of working capital, the use of shortterm versus long term debt and relationship between current assets to fixed assets. The components of working capital they have deal with current assets, which are cash, marketable securities, receivable and inventory. For the efficient management of cash, they have explained the different cash management model. They have also explained the major sources and form of short term financing. Such as trade credit, loan from commercial bank and commercial paper. (Western and Brigham, 1984:331)

Generally, a sources or a combination of various sources of financing to be used depends on the type of current assets (permanent and variable) to be maintained. The long term sources such as stock issues. Debts and bonds are appropriate to use for the permanent type of current assets only if the spontaneous types of short term sources are not available to cover the required sized of permanent current assets. Types of financing may be distinguished into three groups:

i. Long term financing : The source of long term financing includes long term debt (i.e. term loans and bonds), common stock, preferred stock and retained earnings.
ii. Short term financing: Short term financing includes short term bank loan, notes payable, line of credit, overdraft, factoring, blanket lien etc. those are obtained for period less than one year.
iii. Spontaneous financing: Spontaneous financing includes operating sources like trade credits, accounts payable, accrual, etc.

A company can follow three approaches on the mix of short term and long term sources of financing namely conservative, aggressive and matching approach. If more short term funds are used in financing current and fixed asset, it can be considered as aggressive approach. Conservative approach refers to more use of long term financing, which is less risky than aggressive approach. Matching approach is to finance variable current asset by short term source and permanent current assets by long-term source. In working capital

management, an important aspect is matching the type of financing with the type of assets. However, the degree of managerial aggressiveness often guides in choosing a certain combination of short and long term financing for working capital.

2.4 Review of Research Paper and Previous Thesis

Niraj K.C. (2000) in his thesis entitled, "Comparative Study of Working Capital Management of NBL and NABIL Ltd." He has examined the management of working capital in NBL and NABIL. The specific objectives undertaken in his study are:

- To study the current assets and current liabilities and their impact and relationship to each other of NBL and NABIL
- To analyzed the comparative study of working capital management of NBL and NABIL
- Recommendation and suggestion for improvement of working capital management of NBL and NABIL in future.

  Study has mentioned the following findings.
- The average cash and bank balance and loans and advances are higher on NABIL and NBL. Management of loans and advances is more problematic in NBL than NABIL.
- Interest income of NBL is better than NABIL.
- Liquidity management policies of these two banks are significantly different.
- NABIL has the better utilization of deposit in income generating activity than NBL. It is also shows that NABIL has better investment efficiency in loan and advances.
- Due to more conservative working capital policy risk of insolvency is lesser but cost of fund is higher on NBL and NABIL.
- Profitability position of NABIL is far better although NBL earned higher interest than NABIL.

Mr. Basudev Shrestha (2001) has carried out his research on "A study on Working Capital Management of Dairy Development Corporation". The main objectives of the study are to analyze the current assets and current liabilities and their impact and relationship to each other. The major findings of his study are as follows:-

The major components of current assets in DDC are inventory, cash and bank balance, sundry debtors and miscellaneous current assets in which inventory hold the major portion respectively in each other.

- The company's investment in the form of working capital has been increasing.
- The average investment in current assets is lower with respect to net fixed assets during the study period and DDC has no clear vision about the investment in current assets to fixed assets portion.
- The average receivable turnover and ACP is in fluctuating trend during the study period.
- There is inefficient liquidity position and unsatisfactory profitability ratio in DDC.
- The overall return position of DDC is negative i.e. not in favourable condition. It is because of in efficient utilization of current assets, total assets and shareholder's wealth.

Om Bikram Gurung (2002), in the concern of "Working Capital Management of Nepal Lever Limited" has carried out another study related to working capital management. He has used financial and statistical tools to analyze the financial statement of the company for five year from 053/058. The objectives of his study are to analyze the liquidity position, composition of working capital, assets utilization and profitability position of NLL. The major findings of this study are as follows.

- Inventory holds the major portion of current assets followed by misc. current assets, sundry debtors, cash and bank balance. All the components of current assets are fluctuation during observed period.
- The liquidity position of NLL is not satisfactory since current and quick ratios are below satisfactory level but increasing trend implies that liquidity position can be expected to be good in future.
- There is not trade off between liquidity and profitability; however profitability of NLL is satisfactory.
- Company has not taken serious decision on financing policy.

- The company has preferred short-term fund rather long-term fund, which has been indicated by increasing trend of current liabilities to long term to liability ratio. It applied firms moderate financing policy.
- Inventory and receivable turn-over are fluctuation during study period. This indicate that company has high risk.

Rojina Shrestha (2003) has carried out her study on Working Capital Management with respect to National Trading Limited and Salt Trading Limited. She has used financial as well as statistical tools to analysis the final statement of ten year from 045/55. Major finding of her study are as follows:

- Both trading companies have followed aggressive financing policy.
- The net working capital turnover is also fluctuating year after year and even it reaches to negative figure in the last year of the study period.
- Investment in current assets in high in both with respect to its total assets and net fixed assets.
- Liquidity position of National Trading Limited is unsatisfactory and Salt Trading Limited is satisfactory and favourable.
- Overall return position of Salt Trading Limited is not favourable.
- The relationship between current assets and sales of National Trading Limited has insignificant and Salt Trading Limited has significant relationship.
- Correlation between net profit and net working capital in both cases with insignificant relationship because the correlation coefficient of both companies is less than 6 (six) P.E. So, net profit and net working capital is not correlated.

Hari Prasad lamsal (2004) has conducted research study on "A comparative study of Working Capital Management of NABIL and Standard Chartered Bank Ltd." The main objectives are:

- To study the current assets and current liabilities and their impact on liquidity and profitability.
- To analyze the comparative study of working capital management between NABIL and SCBNL.

- To analyze the liquidity, assets utilization, long term solvency and profitability position of both banks.

Based on his finding, the SCBNL should seriously adjust its policy of investment on loan and advances with collected fund and increase their proportion of loan and advances in total current assets. Fixed deposits and saving deposit turnover position are also not satisfactory on both banks. Therefore, NABIL as well as SCBNL should give proper attention on collection of over dated loan and advances and utilization of idle fund as well as loan and advances. Interest earned to total assets ratio is higher on NABIL but net profit ratios are less than SCBNL. It is due to higher cost on NABIL, by adopting the matching working capital management policy instead of adopting conservative working capital policy NABIL as well as SCBNL could improve in its profitability in the short run as well as long run.

- The major components of current assets in NABIL and SCBNL are cash and bank balance, loan and advances and government securities.
- The liquidity position of SCBNL is better than NABIL
- The turnover position of NABIL has better than SCBNL. The NABIL has better utilization of deposits in income generating activity than SCBNL.
- Long term debt to net worth ratio of NABIL is always higher than SCBNL on that study period

Net profit to total assets ratio and net profit to total deposit ratios are always higher on SCBNL than NABIL. Cost of services to total assets ratio of NABIL is always higher than the same of SCBNL on the study period. The average value of interest earned to total assets ratio is higher than SCBNL.

Sthapit Sushma (2005) has conducted the study on "Financial Performance of Nepalese Commercial Banks in Nepal".

The research findings of the study are as follows:

- The liquidity position of SCBNL has better than other five banks NABIL, BOK, Nepal SBI bank and HBL in respect of current ratio standard should be 2:1.

Although, this standard cannot be maintained by all commercial banks. HBL has lower current ratio than other five banks

- Nepal SBI bank has better position than other five banks in the case of cash and bank balance with respect to total deposit. In contrast, a high ratio of cash and bank balance may indicate the banks inability. Thus, in case of NABIL, HBL, NSBL and BOK have invested their deposit fund in more productive sector like short-term investment, marketable securities etc. for improving their profitability.
- Cash and bank balance position with respect to deposit (excluding fixed deposit) in the case of NSBI has better performance against the readiness to serve its customer deposits than other five banks.
- NSBI has a high ratio of cash and bank balance percentage in respect of current assets. But other remaining five banks have low ratio than NSBI's yearly average (19.44%) is higher than composite average (11.11%), although yearly average of BOK and NIBL have also covered more than composite average. In contest, it is clearly seen that cash and bank balance percentage is lowest in case of SCBNL in comparison with other banks.
- Investment in government securities percentage in respect to current assets, in the case of SCBNL has certainly registered better than other five banks. In the case of NBIL. It has very low ratio with respect of current assets among the six banks.
- Net profit to total assets ratio in the case of SCBNL has registered better performance by utilizing its overall resources than other five banks. NSBI has low percentage ratio than other five banks. In the case of SCBNL, it has registered more percentage in respect of net profit to total deposits ratio than other bank i.e. NABIL, BOK, NIBL, NSBI and HBL. Comparatively, SCBNL could earn more profit over the deposit amount than other five banks.
- SCBNL has appeared better achievement by mobilizing a resources of shareholder's equity than other five banks. This ratio reflects the profitability of the owner's investment of commercial banks. NSBI is not able to mobilizing shareholder equity than other five banks.
- Return on loan and advance in the case of SCBNL have appeared better achievement by mobilizing their loan and advances.

- Market price per share of SCBNL has occupied better performance in the competitive open market of investor expectation than other five bank i.e. NABIL, HBL, NSBI and BOK.
- Market rate of return of BOK is better than other five banks i.e. NABIL, SCBNL, HBL, NSBI and NIBL.
- Market price to book value ratios of commercial banks are fluctuating trend over the last five different fiscal years. In the case of SCBNL has recorded highest position by securing high yearly average in the comparison of other five banks.
- The degree of relationship between deposits and loan and advances of the commercial banks are positive. Moreover, the coefficient of determination of BOK has registered higher value than other five banks.
- The degree of relationship between loan and advances and net profit of all commercial banks are positive. Moreover, by considering the coefficient of determination of SCBNL has registered higher value than other five banks.

Suroj Babu Tiwari (2005) in his thesis entitled "A Comparative Study of Working Capital Management of Nepalese Joint Venture Banks with special reference to Nabil Banik and N.B Bank". He has drawn some major findings from his study were as follows.

- The average cash and bank balance and govt. securities percentage are higher on Nabil than N.B. bank and its trend value proportion are negative and loan and advances percentage is lower in Nabil than N.B. and its trend value proportion are positive. This shows that Nabil increases its fund on income generating current assets. The trend value of loan and advances and govt. securities proportion is positive and cash and balance balance proportion is negative on N.B. It shows that income generating current assets is increasing.
- The liquidity position of banks current ratio trend values of Nabil and N.B are negative. Liquidity position of N.B. is always better than Nabil.
- Saving deposit to total deposit ratio of Nabil are always higher than the N.B. bank. N.B. and Nabil both have less 50% deposit on saving account out of total deposit. So, it is found that both banks are funding long term and high costly deposit.

- Net fixed assets to long term debt ratio of N.B. are always lower than Nabil. So, the N.B. has more conservative working capital policy than Nabil.
- Profitability is the measure of efficiency. The profitability position of Nabil is far better than N.B. bank.
- Correlation between investment on govt. security and total deposits of Nabil as well as N.B. are significant and cash and bank balance to current liabilities are negative so it is not significant.
- While testing the hypothesis of liquidity management, these two banks are significantly different.

Mr. Ramesh Mahandhar (Dec. 2006) has carried out a study on "Working Capital Management of Manufacturing Companies listed in NEPSE." For this study he has selected five manufacturing companies of Nepal for five years. The selected companies are Unilever Nepal Ltd, Bottlers Nepal Ltd, Nepal Lube Oil Ltd, Shree Bhrikuti Pulp and Paper Ltd. and Gorkhali Rubber Udhyog Ltd. The main objective of the study is to understand the working capital policy followed by manufacturing companies and influence on liquidity and profitability position. He has also focused in the issues and gaps in working capital management of listed manufacturing companies. Beside this the study also tried to know the impact of sales and net profit on working capital and to assets the relationship of working capital, sales and net profit.

The major findings of the study are as follows:

- The liquidity position of most of the manufacturing companies is weak and is below the standard level. The overall position of manufacturing companies is hardly covering short term liabilities by short term assets.
- The most of the manufacturing companies are moving downwards financially due to lack of specific investment in current assets, in long run and unavailability of sources of financing.
- The overall profitability of Nepalese manufacturing companies are negative due to excessively loss in some companies in comparison to profit of other company. And some are facing from huge loss due to administrative negative, due to unskilled manpower and unsystematic handling of raw material.

- Most of the companies are not being able to fully utilize the working capital due to the higher variation and lower level turnover ratio.
- The productivity power of assets is not satisfactory and profitability on sales is also negative.
- Credit terms and standards are too much liberal in Nepalese manufacturing companies.

Reela Shrestha (2008) has carried out a research work on the topic, "Study on Working Capital Management of Dugar Brothers and Sons."

The research findings of the study are as follows:

- Current assets trend value is increasing. It shows that the firm has high profitability return as well as risk. The average ratio is 0.84 times which shows that the company has adopted relaxed current asset investment policy.
- The position of current liabilities is increasing trend it shows that the company has to be paid within an accounting year has also been gradually increasing.
- Company has invested 2% of total assets in the form of cash and bank balance which is the lowest one. It indicates sound management system.
- The ratio of inventory of current assets is fluctuation. Fluctuation in the investment of inventory is due to the fluctuation in the volume of sales.
- The liquidity position of current ratio and quick ratio are quite fluctuation. The average current and quick ratios are above the standard ratio which shows that the company has enough assets to meet its current obligation and to make immediate payment of its current liabilities.
- Profitability position of return on total assets ratio, ratio of net profit and gross profit margin are decreasing trend which indicates the company is able to gain only small percentage of return.
- Turnover position of current assets, inventory and cash turnover ratios are fluctuating. So that the management is not effectively utilize and maintain the overall management of current assets, inventory and cash balance. The average working capital turnover ratio is very low and is not favourable.

Sangeeta Maharjan (2009), has carried out a research on "Working Capital Management and its impact of profitability of Nepalese commercial Bank with reference to Himalayan Bank Limited". She has used statistical as well as financial tools to analyze the financial statement.

The major findings of this study are as follows :

- The trend value of cash and bank balance is negative. But the trend value of loan and advances and govt. securities are positive.
- The net working capital of HBL is negative during the study period which shows in-adequate amount of working capital for operational requirement in those years. The liquidity positions of bank are utilized with the current ratio, quick are increasing. Although higher liquidity means lower risk as well as lower profit in general.
- The turnover position of HBL has fluctuating trend from the analysis the ratio of loan & advances to total deposit and loan & advances to fixed deposit. Ratio shows that HBL has the better utilization of deposit income generating activity.
- Cost of services of total assets ratio of HBL is 0.3%. The yearly ratio is constant throughout the whole study period.
- The profitability position of HBL is analyzed from different ways. The trend value of interest earned to total assets ratio is constant level. The bank has used its deposit so as to get profit without risk. During the study period this bank has used its working capital fund of assets to earn the profit.
- The coefficient of correlation between cash and bank balance to current liabilities of the bank is no significant relationship between these two variables but loan and advances to net profit is positive relationship between these two variables.

2.5 Research Gap

All the above studies are concerned with the research titled or the review of related studies, of "Working Capital Position" of Nabil bank. There is very limited study on banking sectors with reference to working capital management. The review of that studies it can be conducted that financial ratio and accounting ratio analysis is very important tools, perhaps the most important one is examining the financing ratio of any

enterprises. The most of studies have been concerned with manufacturing enterprises and most have been used financial tools and secondary data. They have only included summary, finding and conclusion in their study but not recommended concrete suggestions to solve the finding problem. So, the case with banks, income generating assets possessed by a bank, the components of the current assets, the deposit collected by it and the soundness with which it extends its credits and investment are the most important aspects of the banks. Liquidity maintained by the banks to meet its daily operation is another important aspect.

The quest to extend knowledge of banking operations led to the undertaking of the current research work. The current research work will definitely extend the hitherto available knowledge on the implications of working capital management of commercial banks in Nepal with measuring the financial constitution of banks.

There is very limited study of working capital management of banking organizations. Thus, to fill up the gap, research has conducted this research topic to light on working capital position and to suggest the possible measure for the betterment and welfare of the trading sectors. Researcher has used financial as well as statistical tools like ratio analysis, mean, standard deviation, coefficient of correlation, regression analysis and primary tools. Almost all the ratio has been applied to cover the analytical part and fulfill the objective of the study. It involves recent five years data of Nabil Bank.

CHAPTER – III
RESEARCH METHODOLOGY

Research methodology is the process of arriving at the solution of the problem through planned and systematic dealing. It refers to various segmented steps to be adopted by a researcher in studying a problem with certain objective in view. It refers to the method and process applied in the entire aspect of the study for analysis and interpretation of facts and figures. It may be understood as a science of study how research is done scientifically in it. We study the research methodology as an process of systematic and in depth study or research for any particular topic, subject or area, of investigation, balked by collection, compellation presentation and interpretation of relevant details of data. It is a careful search or inquiry into any subject or subject matter, which is an endeavor to discover find out valuable fact, which would be useful for future application of utilization. The main purpose of this chapter is focus on the different research method and conditions, which are used while conducting this study. Every study needs systematic methodology to achieve the pre-mentioned objectives of research. In this study, a working capital management of bank also needs an appropriate research design, population and sample, nature and sources of data, data collection and tools used for analysis of data. It is really a method of critical thinking by defined as collecting, organizing and evaluating data, making deduction and making conclusion.

3.1 Research Design

Research design is a conceptual framework with which research is conducted. After identifying the research area, the researcher identified a research problem and reviewed a related literature. After doing the mentioned works the next step of the researcher is to select appropriate research design. Design set up the framework for adequate test of the relations among variables. It tells us about, what observations to make, how to make them, and how to analyze the quantitative representations of the observation. Design does not tell us precisely what to do, but rather suggests the directions of observation-making and analysis. It is a plan that focused the researcher in formulating, implementing, and controlling the study. An adequate design outlines possible conclusions to be drawn from the research work.

According to Fred N, Kerlinger – "Research design is the plan, structure, and strategy of investigation conceived. So as to obtain answers to research questions and to control variance".

In the words of C. Selltiz and others –"A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure."

Research design has two basic purposes:

i. To provide answers to research questions and
ii. To control variance.

A well settled research design is necessary to fulfill the objective of the study. The main objectives of this study are to evaluate the working capital management of Nabil Bank Limited, so this study attempts to make comparison and to establish relationship between two or more variables. Thus it is based on descriptive and analytical method. Financial tools as well as statistical tools are employed to provide analytical insides and to achieve prescribed results. In other hand, in order to achieve the predetermined objectives of research, secondary data have been used. Thus, it is not possible for research to conduct a research work without a research design.

In other words, a research design is the arrangement of conditions for collection and analysis of data that aim to combine relevance to the research purpose with economy in procedure. It is the process which gives us an appropriate way to reach research goal.

3.2 Population and Sample

This research work is related to working capital position of commercial bank. Thus, total of 32 commercial banks operating in Nepal constitute the population of the data and the bank under study constitutes the sample for the study which are actively conducting their services in market. All the banks are not included in this study. So, Nabil Bank limited has been taken as a sample from the population for this research. Data are collected for five year (2007 to 2011) to analyze the effectiveness of working capital management of

banking sectors in Nepal. The population to the industries of the same nature and its services and product in general.

3.3 Nature and Source of Data

The data used in this study are secondary in nature. The secondary data have been extracted from financial statement, annual reports and publication of security board and concerned bank.

3.4 Collection of Data

Financial data are required to achieve predetermined objective of this study, which have been directly extracted from the balance sheet, income statement and profit & loss account of the Nabil Bank.

3.5 Tools of Data Analysis

For the analysis of data, different financial ratio analysis, analysis of different working capital, working capital required and statistical tools (mean, standard deviation, correlation coefficient and regression equation) have been used.

3.5.1 Financial Tools

Financial tools are very essential tools to identity the financial strength and weakness of any organization. In order to obtain the relationship between various variables, the ratio analysis is used. It shows the quantitative or numerical relationship between two variables or more of financial statement. Financial ratio analysis is widely used to know the financial condition of the firm. Bank may able to judge their financial stability by using various ratios. It is the relationship between financial contained in the financial statement. It helps to spot out the financial strength and weakness of the firm. It is the process of summarizing the large quantity of financial data and making quantitative judgment about the firm's financial performance. Those various ratios are employed and grouped for the analysis of composition of working capital, liquidity position, turn-over position, profitability position, types of working capital and working capital required. The financial tools used in this study are as follow. Liquidity ratio, activity or turnover ratio.

Similarly net working capital in terms of cash and bank balance percentage, loan and advances percentage, money at call & short notice percentage, investment govt. security percentage and misc. current asset percentage are also calculated.

Liquidity Ratio

This ratio measures the liquidity position and short term solvency of the firm indication the company's ability to meet short term obligation. The current ratio and quick ratio measures the liquidity position of the company (pradhan, 2000:53). These ratios are calculated to judge the long term as well as short term financial position of concerned firm. Liquidity of any business organization is directly related to working capital or current assets and current liabilities of that organization. One of the main objectives of working capital management is keeping good liquidity position. Every bank needs liquidity to meet loan demand and deposit withdrawals. Without good liquidity, bank is not able to operate its function. To measures the bank solvency position or ability to meet its short term obligation, various liquidity ratios are calculated. The liquidity ratios calculated in this study are as follows.

a. Current Ratio

Current ratio reflects the strength of current assets available with the company over its current liabilities into cash in one accounting year. This ratio indicated the current short term solvency position of bank. The current ratios are the ratios of total current assets to current liabilities. Higher current action indicated better liquidity position. In other words, current ratio represents a margin of safety. The higher current ratio, the greater margin of safety and larger amount of current assets relation to current liabilities. The more bank's ability to meet its obligation. By definition,

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

b. Quick Ratio

quick ratio is used to measure the ability of concern firms to pay current obligation. It provides relationship between quick assets with current liabilities. An assets is liquid if it can be converted into cash immediately or reasonably soon without a loss of values. Cash

is the most liquid assets other assets which are considered being relatively liquid and included in quick assets are book debt and marketable securities. The quick ratio can be found out by dividing the total quick assets by total liabilities.

$$\text{Quick ratio} = \frac{\text{Quick or liquid assets}}{\text{Current liabilities}}$$

i) Cash and Bank balance to Deposit Ratio (Excluding Fixed Deposit)

This ratio shows the ability of banks immediate funds to cover their current margin call and saving deposits. It can be calculated by dividing cash and bank balance by deposits (excluding fixed deposit). The ratio can be expressed as:

$$\text{Bank Deposit Ratio} = \frac{\text{Cash and Bank balance}}{\text{Total deposit (excluding fixed deposit)}}$$

ii) Saving Deposit to Total Deposit Ratio

saving deposit is an interest bearing short term deposit. The ratio is developing in order to find out the proportion of saving deposits, which is interest bearing and short term in nature. It is calculated dividing the total amount of saving deposits by the amount of total deposit. Which can be expressed as follows.

$$\text{Saving Deposit to Total Deposit Ratio} = \frac{\text{Saving deposit}}{\text{Total deposit}}$$

2. Activity or Turnover Ratio

The funds of creditors and owners are invested in various assets to generate sales and profit. Activity ratios are used to evaluate the efficiency with which the firm manages and utilizes its assets. This ratio indicates how quickly certain assets are converted into cash. From this ratio it can be known whether or not the business activities are efficient. These ratios are also called turnover ratio because they indicate speed with which assets are converted to turnover into profit generating assets. These ratios, moreover help in measuring the banks ability to utilize their available resources. The following ratios are used under the activity ratios.

i) Loan and Advances to Total Deposit Ratio

The ratio assesses to what extend the bankers are able to utilize the depositor's fund to earn profit by providing loan and advances. In other words, how quickly total collected deposits are converted into loan and advances given to the client to earn income. It is computed by dividing the total amount of loan and advances to total deposit funds. Higher ratio indicates higher/proper utilization of funds and low ratio is a signal of in efficiency or remaining idle.

$$\text{Loan and Advances to total Deposit Ratio} = \frac{\text{Loan and advance}}{\text{Total deposit}}$$

ii) Loan and Advances to Fixed Deposit Ratio

This ratio differs slightly from the former one because it includes the fixed deposit only. The ratio measures how much amount is used in loan and advances in comparison to fixed deposits. Fixed deposits are interest bearing long term obligations where as loan and advances are major sources of investment in generating income for commercial banks. It is calculated as follows:

$$\text{Loan and Advances to Fixed Deposit Ratio} = \frac{\text{Land and advance}}{\text{Fixed deposit}}$$

iii) Loan and Advances to Saving Deposit Ratio

This ratio is also employed for the purpose of measuring utilization of saving deposits in generating revenue by giving loan and advances to the client i.e. to determine to what extent collected saving deposit amount is being deployed in providing loan and advances to generate income. Saving deposits are interest bearing obligation for short term investment for revenue income. This ratio indicates how much short term interest bearing deposits are utilized, for income generating purpose. The formula for this ratio is as follows.

$$\text{Loan and Advances to Saving Deposit Ratio} = \frac{\text{Loan and advance}}{\text{Saving deposit}}$$

3. Profitability Ratio

The profitability ratio, as the name suggests, measures the operating profitability in terms of profit margin return on equity and return on total investment, and reflects the overall efficiency and effectiveness of management (pradhan 2000:53). Share holders bankers, government, tax collectors, employees are concerned with the profitability of the company. The shareholders are interested with their rate of return, employee in the future, and prospect of the company, government in companies, tax payment capacity and bankers in the perspective of the company. A required level of profit is necessary for survival and growth of a firm in a competitive environment.

Profitability can be measured in term of a relationship between net profit and assets. This ratio is also known as profit-to-assets ratio. It measures the profitability of investment. Various ratios can be developed based upon the profit under different circumstances. These different ratios are called profitability ratios which are required to support the purpose of the study. The profitability ratios calculated in this study are:

a. Interest Earned to Total Assets Ratio

This ratio is used to determine total interest earned from investment over the total assets of a firm. It can be computed as follows.

$$\text{Interest Earned to Total Assets Ratio} = \frac{\text{Interest earned}}{\text{Total assets}}$$

b. Net Profit to Total Assets Ratio

Profit to total assets ratio is useful in measuring the profitability of all financial resources invested compared to total assets of a firm. This ratio is calculated by dividing the amount of net profit by the amount of total assets employed.

$$\text{Net profits to Total Assets Ratio} = \frac{\text{Net profit}}{\text{Total assets}}$$

C. Net Profit to Total Deposit Ratio

This ratio measures the percentage of profit earned from the utilization of the total deposits. Deposits are mobilized for investment loan and advances to the public in

generating revenue. Higher ratio indicates the return from investment on loan and lower ratio indicates that the funds are not properly mobilized.

$$\text{Net Profit to Total Deposit Ratio} = \frac{\text{Net Profit}}{\text{Total deposit}}$$

4. Composition of Working Capital

To operate a business, different kinds of assets are needed for the day to day business operation, different types of current assets are utilized. In case of Nabil Bank Limited, the main components of current assets are cash and bank balance, loan and advances, government securities, money at call & short notice and miscellaneous current assets, are also a component of current assets, (prepaid expenses, outstanding income like, interest receivable and other current assets are included in miscellaneous current assets)

In this study, composition percentage of following components:

- Cash and bank balance percentage
- Loan and advances percentage
- Government securities percentage
- Money at call & short notice percentage
- Miscellaneous current assets percentage.

5. Net Working Capital

Net working capital is the difference between current assets and current liabilities. Net working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities, A negative net working capital occurs when current liabilities are in excess of current assets.

3.5.2 Statistical Tools

Various financial tools mentioned above were used to analyze the working capital management of Nabil Bank Limited. Likewise, the relationship between different variables related to the study topics were also drawn out using statistical tools.

a. Mean or Average

The mean or average value is a single value within the range of the data that is used to represent all the values in the series. Since an average is somewhere within the range of data, it is also called a measure of central value. Average value is obtained by adding together all the terms and by dividing this total by the number of items. The formula is given below:

$$\overline{X} = \frac{\Sigma X}{N}$$

Where,

$\overline{X}$ = Arithmetic average

ΣX = Sum of value of all terms

N = Number of terms

b. Standard Deviation

The standard deviation is the measure that is most often used to describe variability in data distribution. It can be thought of as a rough measure of average amount by which observation deviate on either side of the mean. Denotes by Greek letter (read as sigma), standard deviation is extremely useful for judging the representative of mean.

Standard deviation is represented as:

$$\sigma = \sqrt{\frac{\sum d^2}{n-1}}$$

Where,

σ = Standard deviation

Σd^2 = Sum of squares of the deviation measured from the arithmetic average

n = Number of items

c. Coefficient of variation

The coefficient of variation is the ratio of standard deviation to the mean for a given sample used to measure spread. It can also be thought of as the measure of relative risk.

When the larger of the coefficient variation, then the greater of the risk relative to average.

Mathematically,

C.V = $\frac{\sigma}{\overline{X}}$ x 100

Where,

C.V = Coefficient of variation

σ = Standard deviation

$\overline{X}$ = Arithmetic average

d. Coefficient of Correlation

Correlation is a statistical tool which is used to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the degree of relationship between to sets of figures. Among the various methods of findings out coefficient of correlation, Karl person's method is applied in the study. The result of coefficient of correlation is always between +1 and -1. When the coefficient of correlation r is +1 there is perfect relationship between two variables and vice versa. When coefficient of correlation is 0, there is no relationship between two variables. In correlation analysis, only one variable is treated as dependent and one or more variable are treated as independent.

The formula for the calculation of coefficient of correlation between X and Y given below:

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

Where,

r = Coefficient of correlation

x = x - $\overline{X}$

Y = Y - $\overline{Y}$

e. Trend Analysis

Trend analysis is an analysis of financial ratio over time used to determine the improvement of determination of its financial situation. The trend line is represented by following equation.

$YC = a+bx$

Where,

YC = Estimated value of Y for given value of X in coordinate axis.

a = Y intercept of mean of Y value

b = Slope of the line or rate of change

X = Variables in time axis.

To find the value of a and b, we have to solve the following equations:

$\Sigma y = Na+b\Sigma x^2$ …….(i)

$\Sigma xy = a\Sigma x+b\Sigma x^2$ …….(i)

N = Number of years

f. Probable Error (P.E.)

Probable error is measured for testing the reliability of an observed value of correlation coefficient. It is computed to find the extent to which is dependable. If correlation coefficient is greater than 6 times P.E the observed value of r is said to be significant, otherwise nothing can be conducted with certainly. But if the calculated (r) is less than P.E. Correlation is not at all significant. It is calculated by using following formula.

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

Where,

P.E. = Probable error of correlation coefficient.

r = Correlation coefficient.

n = number of observations.

CHAPTER IV
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter attempts to serve the purpose by analyzing collected data and is the heart of the entire report. After the collection of data, an analysis of the data and the interpretation of the results are necessary. Analysis of data comes prior to the interpretation and analysis of empirical data focused on how far the Nabil bank limited is in position to manage its working capital. The facts and figures collected to be processed with a view of reducing then to manageable proportions only be such a careful and systematic processing, the data collected will lend itself for statistical treatment and meaningful interpretations. To reach toward accurate interpretation.

The major variables for this study are current assets, current liabilities, inventory, receivable, networking capital and net profit etc. simply presenting the variables is not sufficient, so various financially and statistical tools have been employed for the analysis. This chapter begins with the composition of working followed by banks, then analysis of various financial ratios and the financial variables are also compared with the help of available statistical tool i.e. mean, standard deviation, correlation coefficient etc.

The major variable of the study are cash and bank balance, loan and advances and investment of government securities. Relevant data and information of working as well as financial performance of Nabil bank limited are presented, compared tabulated and analyzed accordingly. Analysis is performed using various financial and statistical tools. In financial tools, it uses ratio analysis is which various related ratios have been compared and analyzed. Such as liquidity ratios, turnover ratios, profitability ratios and composition of working capital. In statistical tools, it use trend analysis, correlation analysis.

4.1 Analysis of Composition of Working Capital

Business needs different types of assets to operate its activities. Some assets are needed for the long-term fulfillment of the business activities while other are needed to carry out

the day to day operation of the business. Assets that are used to carry out day-to-day operation of business are known as current assets (working capital).

The composition of current assets i.e. working capital of Nabil Bank Limited is analyzed below:

Investment of Current Assets (Working Capital)

Appropriate level of current (gross working capital) should be maintained to run day to day business activity more efficiently. There should be proper management of current assets because in absence of it, the main objective of any business organization can't be obtained.

A high ratio of current assets in total assets structure does not always convey a high liquidity position because current assets consist of cash, receivables and stocks for the qualitative consideration of current assets its composition should be seriously examined. In common sense, a high ratio of cash to currents indicates liquidity current's as it has zero conversion rate and hundred percent liquidity conversely, it is also indicates poor cash management as ideas of cash reserved involved an opportunity cost, so the quality of current assets can be judged with the individual holding of cash, receivables and stock to its current assets holding.

The main components of current assets at Nabil Bank are cash and bank balance, loan and advance, investment in government securities and miscellaneous current assets are also the components of it (i.e. prepaid expenses, outstanding income, for example, interest receivable, and other current assets are miscellaneous C.A). The following table shows the composition of current assets of Nabil Bank Limited from 2007 to 2011 A.D.

Table 4.1

Current Assets Component of Nabil Bank

Rs. in million

Fiscal Year	Cash balance	Bank balance	Money at calls short notice	Investment	Loan and advanced	Misc current asset	Total current asset

2006/07	2704.06	11294.18	5635.32	89453.10	15545.77	5120.50	129752.93
2007/08	5114.26	21597.13	19523.60	99397.71	21365.05	6063.93	173061.68
2008/09	6743.95	26981.16	5528.88	10826.37	27589.93	8646.95	86317.24
2009/10	6359.86	7641.41	31181.44	13670.91	32268.87	9126.65	100248.84
2010/11	5522.29	9254.27	15631.34	16250.82	36167.20	11012.52	93838.44
Average	5288.884	15353.63	15500.116	44919.782	26587.364	7994.11	116643.826

Source: www.nabilbank.com

Table 4.1 shows the fluctuation in the components of current assets of Nabil Bank during the study period. The bank has the highest level of total current assets of 173061.68 million in the year 2008 and the lowest level of current assets of 86317.24 million in the year 2009.

The components of the bank are cash balance, bank balance, money at calls short notice, investment, loan and advance and Misc. Current assets. The amount of these items are Rs. 2704.06 million, Rs. 11294.18 million, Rs. 5635.32 million, Rs, 89453.10 million, Rs. 15545.77 million, Rs. 5120.50 million respectively in the fiscal year 2006/07 where as these amount are Rs 5522.29 million, Rs. 9254.27 million, Rs. 15631.34 million, Rs. 16250.82 million, 36167.20 million and 11012.52 million respectively in the year 2010/11.

Table 4.2

Percentage Component of Current Assets of Nabil Bank

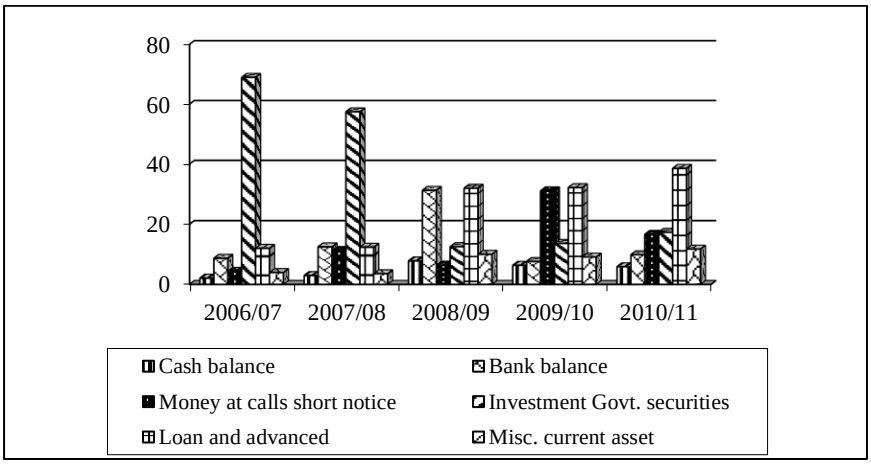
Fiscal Year	Cash balance	Bank balance	Money at calls short notice	Investment Govt. securities	Loan and advanced	Misc. current asset	Total current asset
2006/07	2.08401	8.7043	4.34311	68.9411	11.9810	3.9463	100
2007/08	2.95516	12.4794	11.2812	57.4348	12.3453	3.54039	100
2008/09	7.81298	31.2581	6.4053	12.5425	31.9634	10.0176	100
2009/10	6.34407	7.62214	31.10404	13.63697	32.18877	9.10399	100
2010/11	5.88489	9.86192	16.65771	17.31787	38.54199	11.73562	100
Average	5.01618	13.98517	13.9583	33.97464	25.4041	7.66878	
S.D.	2.4076	9.8234	10.6996	27.03441	12.3731	3.70865	
C.V.	48	70.24	76.65	79.57	48.71	48.36	

Source: www.nabilbank.com

Table 4.2 shows current assets percentage of the Nabil Bank is fluctuated and components are interrelated between them and the Nabil Bank's current assets average on cash balance is 5.01618 percent and the bank has hold the highest level of cash balance in current assets is 7.81298 percent age in the fiscal year 2008/09 and lowest is 2.08401 percent in the year 2006/07 and then the SD is 2.4076 and C.V. is 48%. The bank balance money at calls and short notice, investment, loan and advances and misc. current assets average are 13.97517, 13.9583, 33.97464, 25.4041 and 7.66878 respectively. Then the standard deviation of this components are 9.8234, 10.6996, 27.03441, 12.3731 and 3.70865 respectively. And coefficient of variation (C.V.) are 70.24, 76.65, 79.57, 48.71 and 48.36 respectively. That is the different types of Risk and return of the Nabil Bank. The total current assets percentage is 100 percent.

Figure 4.1

Percentage Component of Current Asset of Nabil Bank



4.2 Trend of Component of Current Assets

a. Trend of Cash Balance

Cash balance is one of the major components of current assets of the Nabil Bank. Cash balance of Nabil Bank is fluctuation over the study period. The level of its highest with 7.8129 percentage in the current asset of the bank in the 2008/09 fiscal year where as its weight is lowest with 2.08401 percentage in the 2006/07 fiscal year. The average level of cash balance of the bank is 5.01618 percentage.

Similarly, standard deviation is 2.4076% in Nabil Bank. Hence, it shows Nabil has lower risk factor. Likewise, coefficient of variation is 48% for this bank it means the rate of return of Nabil is not satisfactory level. From the calculation of cash balance percentage trend, the value of the constants 'a' and 'b' are as follows:

a = 5.01622

b = 1.09907

The rate of change of bank is positively increased in every year.

Trend value

The Trend Value of Cash Balance Percentage

Fiscal year	Cash balance (yc) in %	% change
2006/07	2.81808	-
2007/08	3.91715	39.00
2008/09	5.01622	28.058
2009/10	6.11529	21.91
2010/11	7.21436	17.97
Average	25.0811	21.3876

Source: Appendix 3

Figure 4.2

Trend Line of Cash Balance Percentage

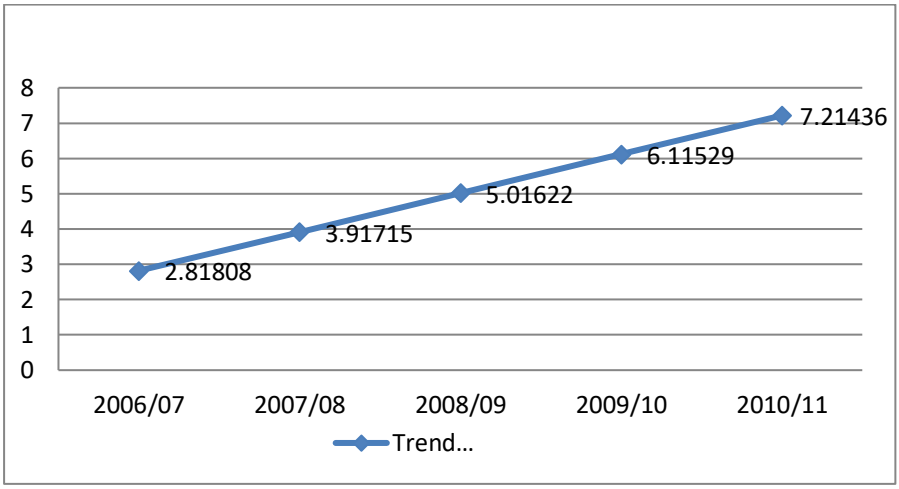


Figure 4.2 shows the trend line of cash balance is in increasing trend in the 2nd year than 1st year. It shows that the current assets of Nabil Bank is increases in compare of 1st year. Then third year trend line also is in increasing order. In 4th year, trend line of cash balance is also increasing order and shows that the current assets of bank are improved. Above analysis represents that the trend line of cash balance is in increasing rate in the study period and highest in the 5th year. The trend shows that Nabil Bank effectively utilized its cash balance to invest in income generating sectors.

b. Trend of Bank Balance

Bank balance is also one of the important components of current assets of the Nabil Bank. Bank balance of Nabil Bank is fluctuated over the study period. The level of it is highest with 31.2581 percentage in the 2008/09 fiscal year.

Its weight is lowest with 7.62214 percentage in fiscal year 2009/10. The average level of bank balance of the bank is 13.98517 percentages.

Similarly, standard deviation is 9.8234 in the Nabil Bank. Hence, it shows Nabil Bank has lower risk factor and coefficient of variation is 70.24% for this bank. It means the rate of return of Nabil Bank is not satisfactory level.

From the calculation of Bank Balance Percentage Trend, the value of the constant 'a' and 'b' are as follows;

Constant value of Nabil Bank in bank balance

a = 13.98517

b = -0.25420

b indicates the rate of change of bank is negative (-)

The Trend Value of Bank balance percentage

Fiscal year	Cash balance (yc) in %	% change
2006/07	14.49357	-
2007/08	14.23937	-1.75
2008/09	13.98517	-1.78
2009/10	13.73097	-1.82
2010/11	13.47677	-1.85
Average	13.98517	-1.44

Source: Appendix - 4

Figure 4.3

Trend Line of Bank Balance Percentage

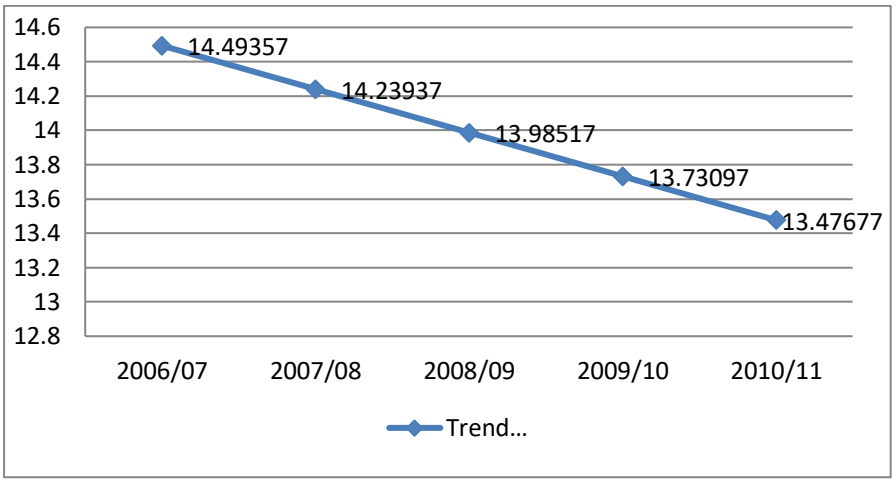


Figure 4.3 analyse helps to conclude that the trend line of bank balance is in totally decrease in whole study period. The trend line of bank balance is decreasing order and shows that the current assets of Nabil Bank are not sufficient. So that the bank's capacity is not strong in study period. So this is not good satisfactory level. The trend line shows that Nabil Bank is not effectively utilized its balances to incoming operation.

c. Trend of Money at Call and Short Notices

Money at call and short notice of Nabil Bank is fluctuated over the study period. The level of it is highest point with 31.10404 percentage in the current assets of the bank in the fiscal year 2009/10. Where as its weight is lowest level with 4.3431 percentage in year 2006/07. The average level of money at call and short notice is 13.9583 percentages. And the standard deviation is 10.6996 percentages it shows that the Nabil Bank has lowest risk than other current assets and the coefficient of variation is 76.65% it means that the level of return of Nabil Bank on money at call and short notice has not satisfactory.

From above calculation of money at calls and short notice percentage trend values of the constants 'a' and 'b' are as follows:

Constants value of Nabil Bank in money at calls and short notice

a = 13.95827

b = 4.44520

The trend rate of change of money at calls and short notice percentage 'b' of Nabil Bank is positive. It implies that the money at calls and short notice is satisfactory.

The Trend Values of Money at Calls and Short Notice Percentage

Fiscal year	Money at calls and short notice	% change
2006/07	5.06787	-
2007/08	9.51307	87.71
2008/09	13.95827	47.73
2009/10	18.40347	31.85
2010/11	22.84867	24.15
Average	13.95827	38.288

Source: Appendix 5

Figure 4.4

Trend Line of Money at Call and Short Notice Percentage

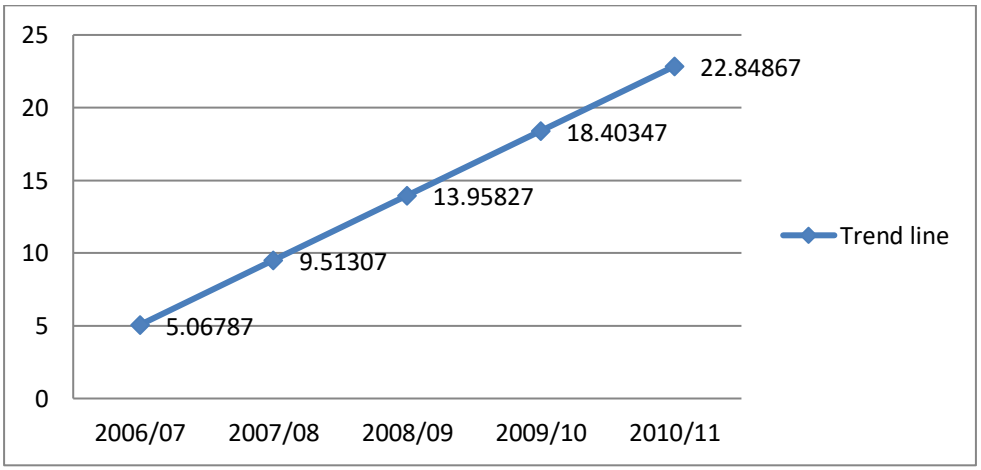


Figure 4.4 shows the trend line of money at calls and short notice is in increasing order. It means asset of Nabil Bank is in increasing in the whole of study period. It means current assets of bank are also increasing conditions so the bank's capacity for the money at calls and short notice is satisfactory. The trend line shows that Nabil Bank is effective in utilizing its current assets of money at calls and short notice.

d. Trend of Investment Govt. Securities

The investment in government securities are also another major component of current assets of the bank. Government securities are fluctuated over the study period. The highest level of CA with 68.9411 percentages in the fiscal year 2006/07, Where as its weight is in lowest level with 12.5425 percentage in year 2008/09. The average level of government securities of the bank is 33.97464 percentages. And the standard deviation is 27.03441 percentage and the coefficient of variation is 79.57%.

From above calculation of government securities percentage trend value of the constant 'a' and 'b' are as follows:

Constants value of Nabil Bank in government securities

a = 33.97465
b = -14.704429

The trend rate or ratio of change of investment government securities percentage 'b' of Nabil Bank is negative

The Trend Values of Investment Government Securities Percentage

Fiscal Year	investment government securities (yc) in %	% change
2006/07	63.38351	-
2007/08	48.67908	-23.20
2008/09	33.97465	-30.21
2009/10	19.27022	-43.28
2010/11	4.56579	-76.31
Average	33.97465	-34.6

Source: Appendix 6

Figure 4.5

Trend Line of Investment Government Securities

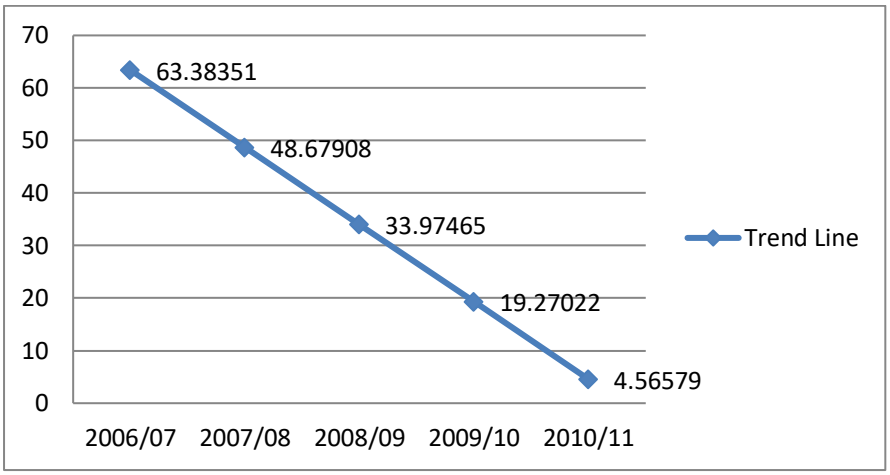


Figure 4.5 analyse helps to conclude that the trend line of government securities in figure is totally decrease in the whole study period. The trend line of investment government securities is decreasing order and shows that the current assets of Nabil Bank are not sufficient. So that the bank's capacity of investment in government securities sector is not strong in study period. So, it is not in satisfactory level in the investment in securities of Nabil Bank to represents the share of government securities are decreases. Then the current assets of Nabil Bank are lowest standard. Above analysis represent that the trend line of government securities is in decreasing rate in the study period. The trend line shoes that Nabil Bank is not good utilized its government securities to invest in income generating sector.

e. Trend of Loan and Advance

Loan and advance is also one of the components of current assets of the bank. Loan and advance percentage of Nabil bank is found to be fluctuating trend in the study period. The level of its highest point is 32.1887 percentage in the current assets of bank in fiscal year 2009/10. And the lowest level of bank current assets percentage with 11.981 in year 2006/07. The average level of loan and advance of the bank is 25.4041, standard deviation is 12.3731 and coefficient of variation is 48.71%. It shows the bank has of risk factor and the return of bank has so good and satisfactory level.

From above calculation of loan and advances percentage trend value of the constant 'a' and 'b' are as follows:

Constants value of Nabil Bank in loan and advances.

a = 25.40409

b = 7.29654

The trend rate or the rate of change of loan and advance percentage 'b' of Nabil Bank is positive. It implies that the loan and advance of bank are increasing.

The Trend Value of Loan and Advance Percentage

Fiscal Year	Loan and advance (yc) in %	% change
2006/07	10.81101	-
2007/08	18.10755	67.49
2008/09	25.40409	40.29
2009/10	32.70063	28.72
2010/11	39.99717	22.31

Source: Appendix 7

Figure 4.6

Trend Line of Loan and Advances Percentage

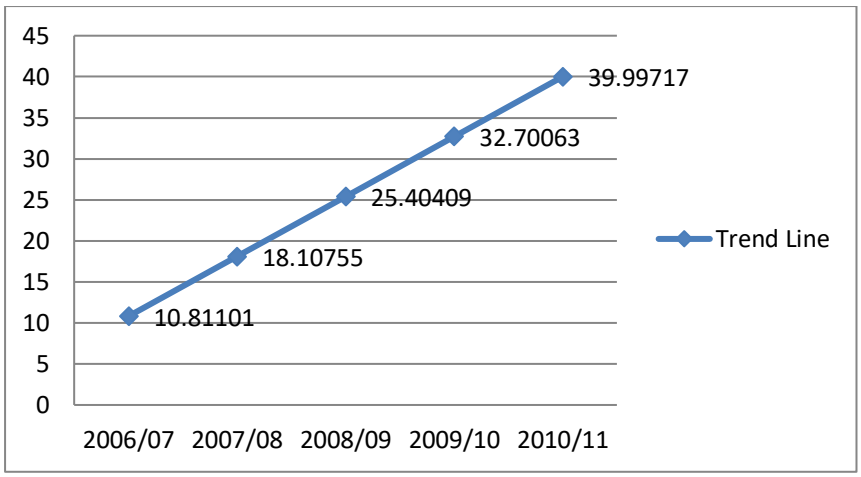


Figure 4.6 related to line of loan and advances shows that the trend line is in increasing order and shows that the current assets of Nabil Bank is in increasing, the bank's capacity of lending is strong. The trend line of loan and advances is increasing order in the whole study period. It means the bank is able to give the loan and advances to its customers or

investors. Above analysis represent that the trend of loan and advances is in increasing rate in this study period. The trend line shows that Nabil Bank has effectively utilized its loan and advances in lending sectors.

f. Trend of Misc. Current Assets

Misc. Current assets are also important of current assets of the bank. It is more fluctuating in the study period. It is in increase in 1st year and then decreasing order in 2nd year and third year it increased then in 4th year it again decreased and last fiscal year it again increased. It has highest point is 11.73562 in the year 2010/11 and lowest point is 3.54039 in the year 2007/08. The average level of misc. current assets percentage for Nabil Bank is 7.66878. Similarly the standard deviation is 3.70865 percentage and the coefficient of variation of misc. current assets is 48.36%. it shows that the Nabil Bank has low risk that other current assets. From above calculation of misc current assets percentage trend value of the constants 'a' and 'b' are as follows.

Constants value of Nabil Bank in Misc. current assets

a = 7.66878

b = 2.11422

The Trend Values of Misc Current Assets Percentage

Fiscal Year	Misc Current assets (yc) in %	% change
2006/07	3.44034	-
2007/08	5.55456	61.45
2008/09	7.66878	38.06
2009/10	9.783.	27.57
2010/11	11.89722	21.61
Average	7.66878	29.738

Source: Appendix 8

Figure 4.7

Trend Line of Misc. Current Assets Percentage

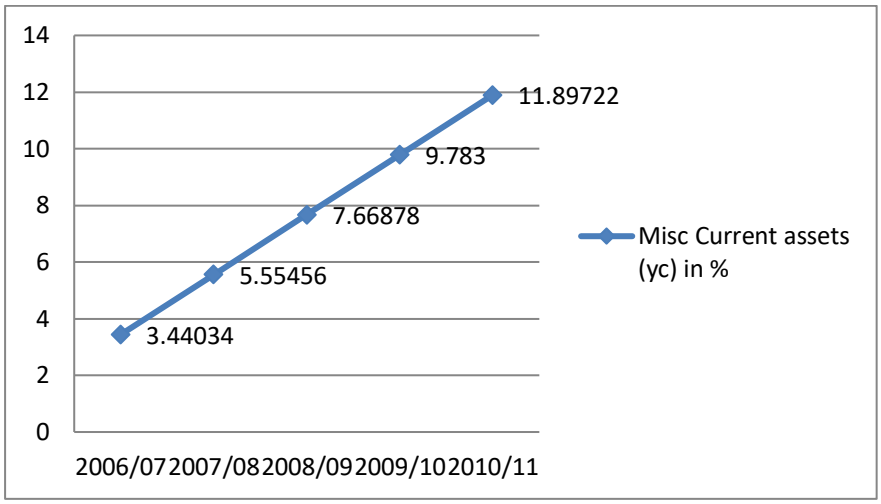


Figure 4.7 analyse the trend line of misc. current assets of Nabil Bank for five year been shown. The trend line shows increasing level of current assets in the study period. The trend line shows the bank is in good position. So, the bank's capacity of investment of misc. current assets is effectively utilized. The misc current assets of Nabil Bank are not able to invest those current assets for its customers and investors.

4.3 Net Working Capital

Net working capital is the excess of current assets over current liabilities. In other words, the amount of current assets which is more than current liabilities is known as working capital. If current liabilities are nil then, working capital will equal to current assets. Working capital shows strength of business in short period of time. If a company have some amount in the firm of working capital, it means company have liquid assets, with this money company can face every crises position in the market. Networking capital can be positive in the market. Networking capital can be positive or negative. Positive working capital means that the company currently is unable to meet its short term liabilities with its current assets (cash, account receivable and inventory).

The most common definitions of working capital is:

Current assets-current liabilities

All the organization should have just adequate working capital to serve in competitive market. Excessive or inadequate working capital is dangerous from the firm's point of view. Exclusive investment working capital affects a firm's profitability just as idle investment yields nothing. In the same way in adequate or negative net working capial may be harmful to the organization so net working capital can be more useful for the analysis of trade off between profitability and risk. It enables a firm to determine how much amount is left for operational requirement

Table 4.3

Net working capital of Nabil Bank

(Rs. In million)

Fiscal year	Current Assets	Current Liabilities	Net working capital	% change in NWC
2006/07	129752.93	53854.60	75898.33	-
2007/08	173061.68	76808.76	96252.92	0.268
2008/09	86317.24	83501.70	2815.54	-0.971
2009/10	100248.84	108128.58	-7879.74	-3.798
2010/11	93838.44	126285.4	-32446.96	3.118
Average	116643.826	89715.508	26928.018	-0.2766
S.D. C.V.			55951.794 207.78	

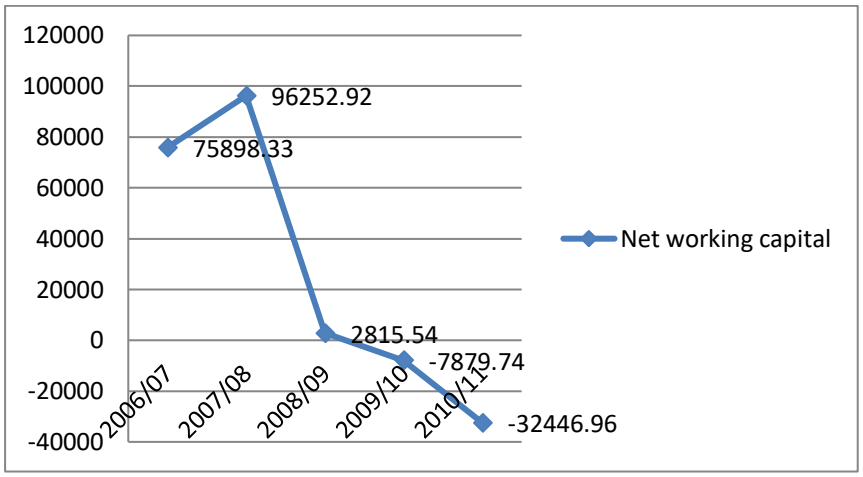
Source: Appendix. 15

Table 4.3 shows that the working capital of Nabil Bank is in increasing order into the 3rd year. We get decreasing order till last year. The average level of net working capital of this bank is 26928.018 million.

It means that Nabil Bank has negative working capital and decreasing order in the study period. This implies that there is not sufficient amount required for operational requirement.

Figure 4.8

Net working capital of Nabil Bank



4.4 Ratio Analysis

Ratio is the numerical or arithmetical relation between two variables. It is expressed when one variable is divided by another. Ratio analysis is the process of determining and interpreting numerical between variables of financial statement. Ratio is used an index for evaluation the financial position and performance of the bank.

Ratio analysis is developed to show the numerical relationship between the data presented in the financial statement. It helps to measures profitability, solvency and performance of any business firm. It facilities the decision maker to take the appropriate decision basing on the different ratios.

4.4.1 Liquidity Ratios

It is very important for firm to be meeting its obligations as they become due. Liquidity ratios measure the ability of the firm to meet its current obligations. A firm should ensure that it doesn't suffer from the liquidity crunch and that it is not too much highly liquid. The failure of a company to meet its obligations due to lack of very high degree of liquidity is also bad, Idle or non-performing assets earn nothing. The firms fund will be unnecessary tied up in the current assets. Therefore, it is necessary to strike a proper balance between liquidity and lack of liquidity. A commercial bank, must maintain satisfactory liquidity position to satisfy the credit needs of the community, meet

demand for deposits, withdrawl, pay maturity obligation in time and convert to cash assets into cash to satisfy immediate needs without loss to the bank and without consequent impact on long run profitability of the bank.

To measure the liquidity position of the bank, the following measures of liquidity ratios has been calculated and brief analysis of the same has done as below.

a. Current Ratio:

This ratio indicates the current short-term solvency position of the bank. Higher current ratio indicate better liquidity position. In other words, current ratio represents a margin of safety, i.e. a cushion of protection for creditors and the highest current ratio, greater the margin of safety, the large amount of current assets in relation to current liabilities, and more the bank ability to meet its current obligations. The current ratio can be calculated as shown below:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Table 4.4 shows that the current ratio to compare the working capital management of Nabil Bank limited.

Table 4.4

Current Ratio

(Rs. In million)

Fiscal year	Current Assets	Current Liabilities	Current Ratio
2006/07	129752.93	53854.60	240.93
2007/08	173061.68	76808.76	225.31
2008/09	86317.24	83501.70	103.37
2009/10	100248.84	108128.58	92.71
2010/11	93838.44	126285.4	74.31
Average	116643.826	89715.808	147.33
S.D.			79.20
C.V.			53.76

Source: Appendix 16

From table 4.4 it depicts that current assets are increasing and decreasing order and the liabilities also fluctuated in study period. The current ratio of Nabil Bank is in decreasing order in the study period. It has highly rate in year 2006/07. The highest point is 240.93 and lowest ratio is 74.31 standard deviation is 79.20. Similarly coefficient of variation is

53.76 in the study period. Hence more than 50% of coefficient of variation is current ratio maintained by the Nabil Bank Limited.

Figure 4.9

Current Ratio

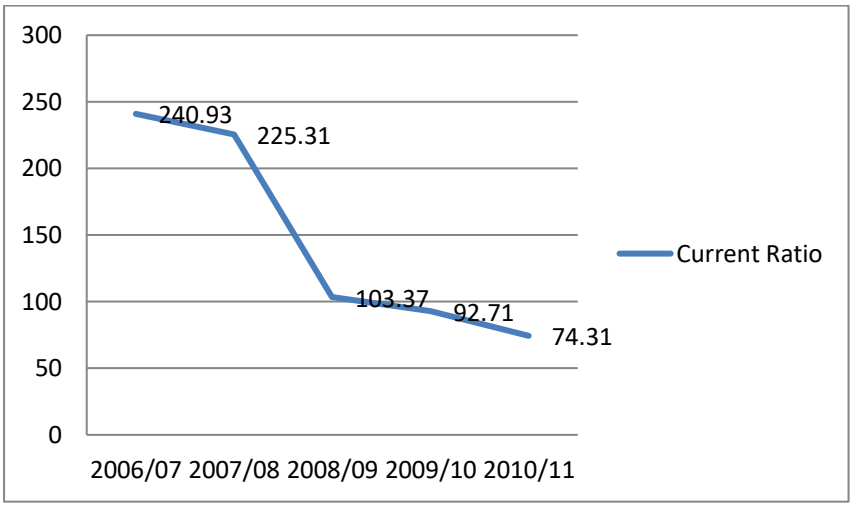


Figure 4.9 shows that the current ratio of Nabil Bank has fluctuated in the study period. It is clear from those current ratios are lower in compare of starting year of study period. But decreasing trend rate has increased from the year 2008/09. The above analysis helps to conclude that the bank is able to maintain the standard current ratio 225.31 for the year 2007/08. Therefore the Nabil Bank has good liquidity position according to norms however they have sufficient current liabilities.

b. Quick Ratio

Quick ratio is a relationship between quick or liquid assets and current liabilities. An asset is said to be quick. If it can be converted into cash immediately or reasonably soon and without a loss of original value. For this study, cash and bank balance, money at calls and short notice and Govt. securities are considered as quick assets because of their tendency of conversion into cash shortly without the loss of value.

Quick ratio reflects the instant debt paying capacity of the firm. It is also called acid test ratio.

The formula is given below:

$$\text{Quick Ratio} = \frac{\text{Quick/Acid Test Assets}}{\text{Current Liabilities}}$$

Quick Assets = Cash and Bank balance + Investment Govt. securities + Money at calls and Short Notice

Table 4.5

Quick Ratio

Fiscal year	Quick Assets	Current Liabilities	Quick Ratio
2006/07	109086.669	53854.60	202.56
2007/08	145632.7	76808.76	189.60
2008/09	50080.36	83501.70	59.97
2009/10	58853.32	108128.58	54.42
2010/11	46659.02	126285.4	36.947
Average S.D. C.V.			108.7 80.35 73.92

Source: Appendix 17

Table 4.5 shows the quick ratio of Nabil Bank is in decreasing order in the study period. The ratio of highest point is 202.56 in the year 2006/007 and lowest point is 36.95 in the year 2010/11. There is different between highest and lowest ratio. The average ratio is 108.7. Similarly the standard deviation of ratio is 80.35 and the coefficient of variation is 72.92.

Figure 4.10

Quick Ratio

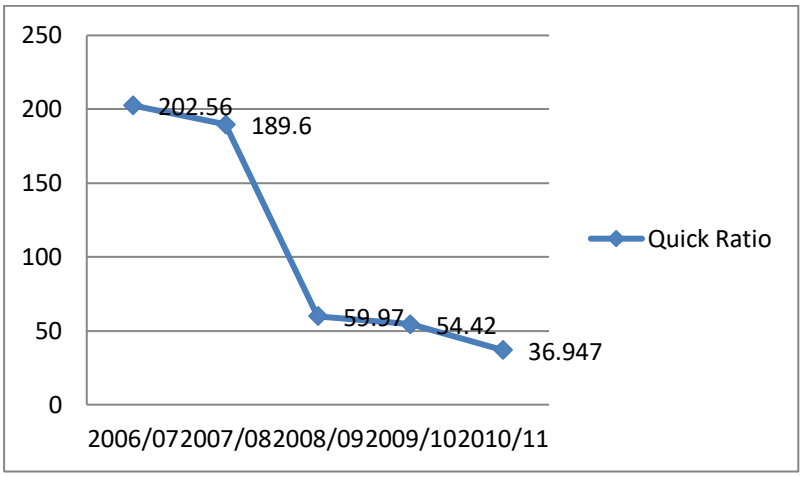


Figure 4.10 shows that the quick ratio of Nabil Bank Limited has fluctuated or high and low order in the study period. The ratio on starting year is high and the second year averagely decreased and third year it has highly decreased position than last two year. That means the Nabil Bank's liquidity is not satisfactory.

i. Cash and Bank Balance to Deposit Ratio (Excluding Fixed Deposit)

The cash and bank balance to deposit ratio clears its definition. This ratio is calculated as below.

$$\text{Balance to Deposit Ratio} = \frac{\text{Cash and bank balance}}{\text{Total deposit (excluding fixed deposit)}}$$

The following table shows the cash and bank balance to deposit ratio of Nabil Bank limited.

Table 4.6

Cash and Bank Balance to Total Deposit Ratio

(Excluding Fixed Deposits)

Rs. in million

Fiscal year	Cash and Bank Balance	Deposit (Current)	Ratio
2006/07	13998.24	33952.39	41.23
2007/08	26711.39	52843.68	50.55
2008/09	33725.11	54805.33	61.54
2009/10	14000.97	79046.19	17.71
2010/11	14776.86	95136.24	15.53
Average	20642.514	47347.528	37.13
S.D.			20.23
C.V.			54.22

Source: Appendix 18

Table 4.6 demonstrates that the ratio of Nabil Bank are increasing and decreasing trend in the study period. The ratios are slightly increasing in the 2nd and 3rd year and there after starting of decrease rate in the year 4th & 5th. The ratio of highest point is 61.54 in the fiscal year 2008/09 and the lowest is 15.53 in the year 2010/11. The average ratio is 37.31. Similarly standard deviation is 20.23 & coefficient of variation is 54.22.

Figure 4.11

Balance to Deposit Ratio

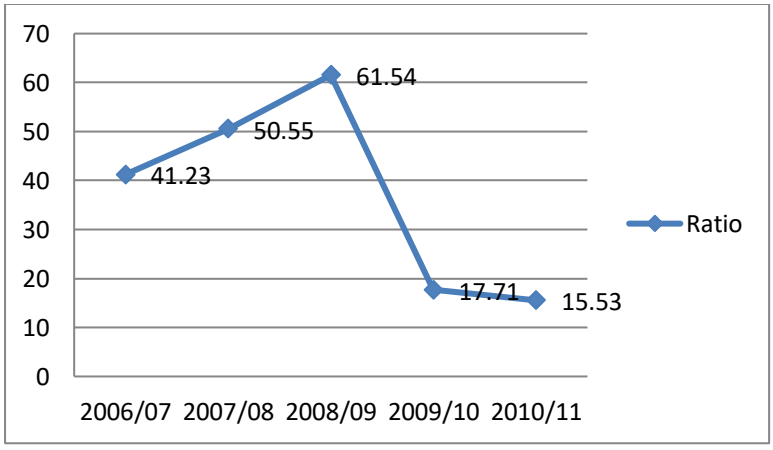


Figure 4.11 depict that the cash and bank balance to deposit ratio (excluding fixed deposit) of Nabil Bank is in increasing trend to the 3rd year then at last year it is in decreasing way. In the study period balance to deposit ratio is low. So, that Nabil Bank should maintains the cash and bank balance to deposit ratio.

iii. Saving Deposit to Total Deposit Ratio

This ratio is calculated as below.

$$\text{Saving Deposit to Total Deposit} = \frac{\text{Saving deposit}}{\text{Total deposit}}$$

Total Deposit = Current Deposit + Fixed Deposit

Table 4.7

Saving Deposit to Total Deposit Ratio

Rs. in million

Fiscal year	Saving deposit	Total Deposit	Ratio
2006/07	10187.35	88304.28	11.54
2007/08	12159.96	137484.54	8.88
2008/09	14620.407	137912.41	10.60
2009/10	13783.58	93757.34	14.70
2010/11	14960.21	125696.45	11.90
Average	13142.3014	116631.004	11.524
S.D.			2.13
C.V.			18.48

Source: Appendix 19

Table 4.7 shows that the saving deposit is in fluctuating in the study period. The ratio of first, second and third year is in decreasing way and fourth is in increasing trend and last one is again in decreasing position. The ratio of highest point is 14.70 in the year 2009/10 and the lowest point is 8.88 in the year 2007/08. The average ratio is 11.524. The standard deviation is 2.13 and the coefficient of variation is 18.48.

Figure 4.12

Saving Deposit to Total Deposit Ratio

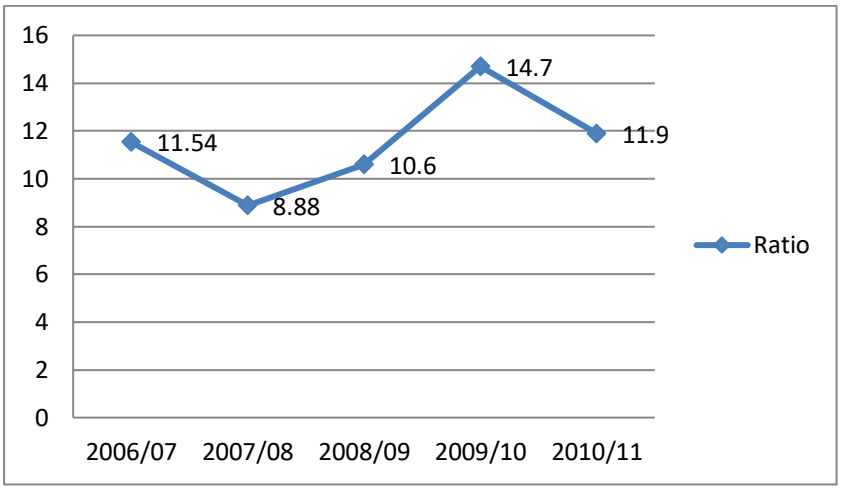


Figure 4.12 shows the ratio is decreasing or increasing order. The ratio in 2nd year is decreased than 1st year and it increased from 2nd year to 4th year and again it is decreased in year 5th. It means the saving deposit of the bank is fluctuated in the study period. It is not constant and it is not good for the Nabil bank.

iii. Loan and Advances to Total Deposit Ratio

This ratio is calculated as below

Loan and Advance to Total Deposit = $\frac{\text{Loan and advances}}{\text{Total deposit}}$

Total Deposit = Current Deposit + Fixed Deposit

Table 4.8

Loan and Advances to Total Deposit Ratio

Rs. in million

Fiscal year	Loan and advance	Total Deposit	Ratio
2006/07	15545.77	88304.28	17.60
2007/08	21365.05	137484.54	15.53
2008/09	27589.93	137912.41	20
2009/10	32268.87	93757.34	34.41
2010/11	36167.20	125696.45	28.77
Average	26587.364	116631.004	23.26
S.D. C.V.			8.02 34.48

Source: Appendix 20

Table 4.8 shows that the loan and advances to total deposit ratios of Nabil Bank are fluctuated. But in study period is neither high nor low so the bank has break even profit. The highest ratio is 34.41 in the year 2009/10 and the lowest ratio is 15.53 in 2007/08. The average ratio is 23.26. Similarly the standard deviation & coefficient of variation is 8.02 % & 34.48% respectively.

Figure 4.13
Loan and Advances to Total Deposit Ratio

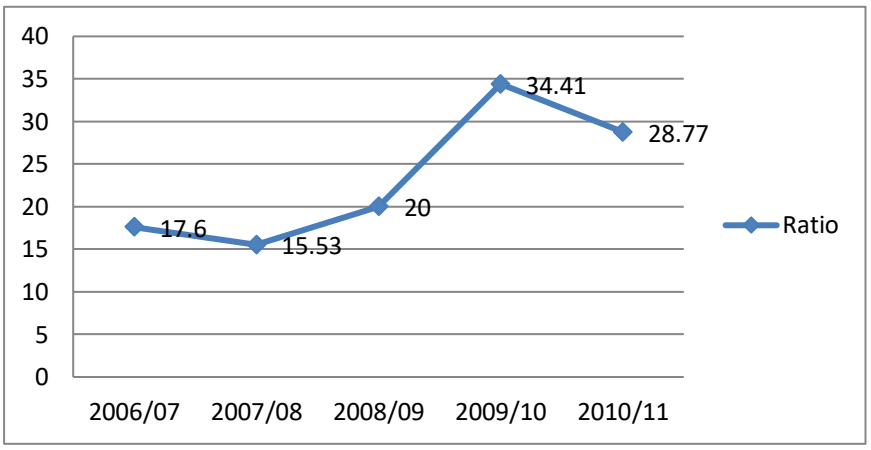


Figure 4.13 shows the ratio is in decreasing or increasing order. Increment of this ratio is the main target of all banks. So the higher is better for mobilizing of the funds.

iv. Loan and Advances to Fixed Deposit Ratio

This ratio is calculated as below:

Loan and Advances to Fixed Deposit Ratio = $\frac{\text{Loan and advances}}{\text{Total deposit}}$

The following table shows the ratio of Nabil Bank.

Table 4.9
Loan and Advances to Fixed Deposit Ratio

Rs. in million

Fiscal year	Loan and advance	Fixed Deposit	Ratio
2006/07	15545.77	54351.89	28.60
2007/08	21365.05	84640.86	25.24
2008/09	27589.93	83107.08	33.19
2009/10	32268.87	14711.15	219.34
2010/11	36167.20	30560.21	118.35
Average	26587.364	53474.238	84.94
S.D. C.V.			84.55 99.54

Source: Appendix 21

Table 4.9 shows that the ratio is fluctuating in the study period. The ratio is decreasing up to 2nd year and increased in to the 4th year of the study period and again it has decreased in 5th year. It has highest ratio is 219.34 in the year 2009/10 and the lowest ratio is 25.24 in the year 2007/08. The average ratio is 84.94, standard deviation is 84.55 and the coefficient of variation is 99.54.

Figure 4.14

Loan and Advances to Fixed Deposit Ratio

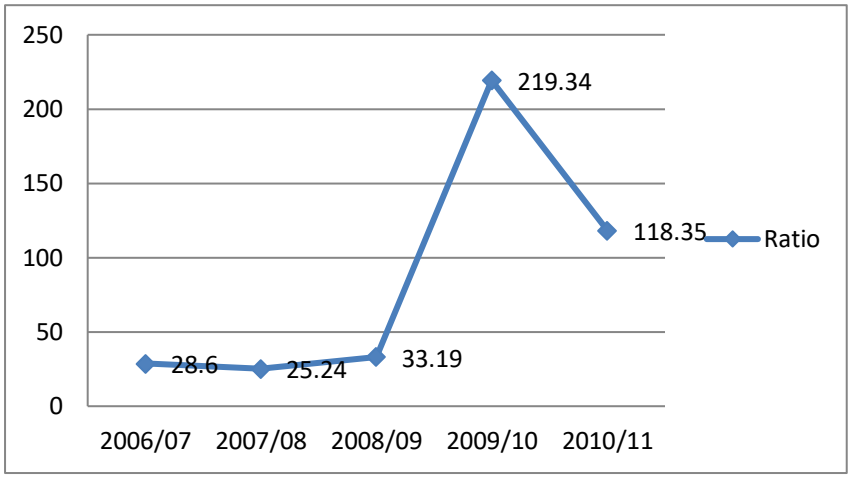


Figure 4.14 shows that the ratio trend line is in increasing way in year 3rd & 4th and the first & last year is in decreasing trend.

v. Loan and Advances to Saving Deposit Ratio

This ratio is calculated as below:

Loan and Advance to Saving Deposit = $\frac{\text{Loan and advances}}{\text{Saving deposit}}$

Table 4.10

Loan and Advances to Saving Deposit Ratio

Rs. in million

Fiscal year	Loan and advances	Saving Deposit	Ratio
2006/07	15545.77	10187.35	152.59
2007/08	21365.05	12159.96	175.70
2008/09	27589.93	14620.40	188.70
2009/10	32268.87	13783.58	234.11
2010/11	36167.20	14960.21	241.76
Average	26587.364	13142.3	198.57
S.D.			38.29
C.V.			19.28

Sources : Appendix 22

Table 4.10 shows that the ratio's are slightly increasing order. The highest ratio is 241.76 in the year 2010/11 and the lowest ratio is 152.59 in the year 2006/07. The average ratio is 198.57, standard deviation is 38.29 and the coefficient of variation is 19.28%.

Figure 4.15

Loan and Advances to Saving Deposit Ratio

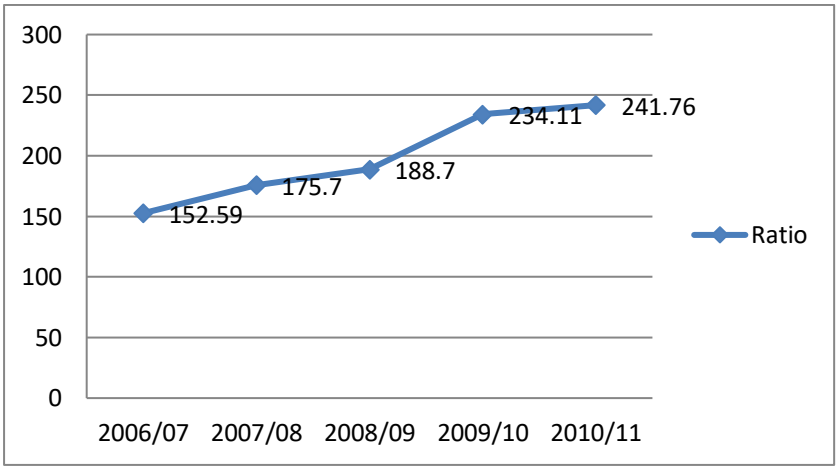


Figure 4.15 shows that the trend line is increasing order. It means that the ratio of loan and advances to saving deposits is increase in the study period.

4.4.2 Profitability Ratio

Profitability is an indicator of efficiency of the business organization. Profitability ratio measures the management over all efficiency as shown by the return generated from sales and investment. Higher the profitability ratio shows the efficiency of the management.

a) Interest Earned to Total Assets Ratio

This ratio can be calculated as below:

$$\text{Interest Earned to total Asets Ratio} = \frac{\text{Interest earned}}{\text{Total Assets}}$$

Table 4.11

Interest Earned to Total Asets Ratio

Rs. in million

Fiscal year	Interest Earned	Total Assets	Ratio
2006/07	15877.58	4816.24	329.66
2007/08	19786.96	8464.92	233.75
2008/09	27984.86	11887.73	235.40
2009/10	40477.25	13054.58	310.06
2010/11	65384.23	15627.6	418.39
Average	33902.176	10770.214	305.45
S.D. C.V.			75.04 24.57

Source: Appendix 23

Table 4.11 shows that the interest earned ratio of Nabil Bank is fluctuating. The second year and third year ratio is in decreasing way and then other year's ratio is slightly increasing position. It has highest ratio is 418.39 in the year 2010/11 and the lowest ratio 233.75 in the year 2007/08. The average ratio is 305.45, standard deviation and coefficient of variation are 75.04 and 24.57 respectively.

Figure 4.16

Interest Earned to Total Assets Ratio

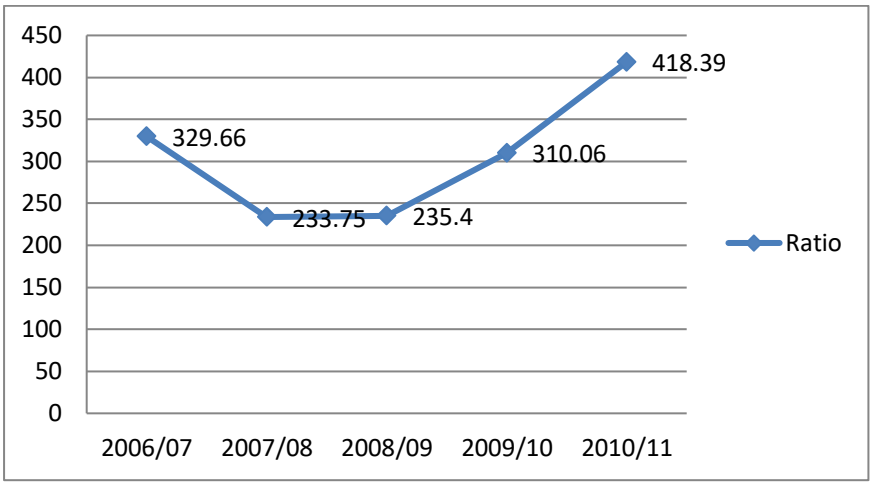


Figure 4.16 shows that the trend of earning ratio is up and down. The fiscal year 2010/11 ratio is higher than other year's so in the study period Nabil Bank is in satisfactory level. The interest on to total assets ratio implied that Nabil Bank has sufficient total fund using to on interest income and other year ratio is also satisfactory level.

b. Net profit to Total Assets Ratio: This ratio can be calculated as below.

Net profit to Total Assets Ratio$= \frac{Net\ Profit}{Total\ Assets}$

The following table shows the ratio of net profit to total assets of Nabil Bank.

Table 4.12

Net Profit to Total Assets Ratio

Fiscal year	Net profit	Total assets	Ratio
2006/07	6739.59	4816.24	139.93
2007/08	7464.69	8464.92	88.18
2008/09	10310.53	11887.73	86.73
2009/10	11385.70	13054.58	87.22
2010/11	25438.06	15627.6	162.78
Average	12267.714	10770.214	112.968
S.D. C.V.			35.96 31.83

Source: Appendix 24

Table 4.12 shows that the net profit to total assets ratio of Nabil is fluctuating in the study period. It has highest 162.78 in the year 2010/11 and lowest is 86.73 in the year 2008.09. The average ratio is 112.968 during the study period. The standard deviation and coefficient of variation are 35.96 and 31.83 respectively.

Figure 4.17

Net Profit to Total Assets Ratio

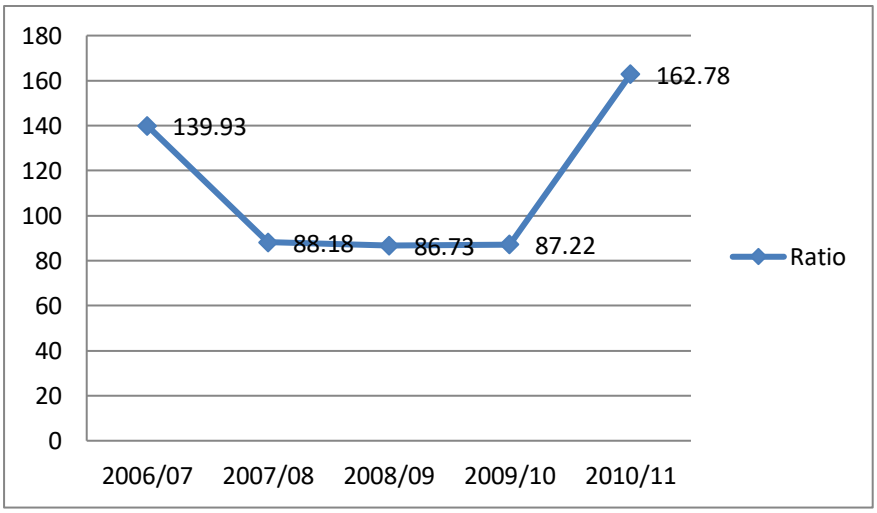


Figure 4.17 shows that the 1st and 2nd year ratios are decreasing. It indicate that in the year 2007/08 and 2008/09 bank has not more profit to total assets. So it indicates Nabil Bank need to improve its profit ratio, later this year ratios increased to year 2010/11 i.e. means Nabil Bank has more profit to total assets in the final year of study period.

c. Net Profit to Total Deposit Ratio

This ratio can be calculated as below:

$$\text{Net profit to Total Deposit ratio} = \frac{\text{Net Profit}}{\text{Total Deposit}}$$

The following table shows the ratio of net profit to total deposit of Nabil Bank

Table 4.13

Net Profit to Total Deposit Ratio

Rs. in million

Fiscal year	Net profit	Total assets	Ratio
2006/07	6739.59	88304.28	7.63
2007/08	7464.69	137484.54	5.42
2008/09	10310.53	137912.41	7.47
2009/10	11385.70	93757.34	12.41
2010/11	25438.06	125696.45	20.34
Average	12267.714	116631.004	10.65
S.D. C.V.			6 56.34

Source: Appendix 25

Table 4.13 shows that the ratios of Nabil Bank are fluctuating in the study period. The highest ratio is 20.34 in the study period 2010/11 and lowest ratio is 5.42 in the year 2007/08. The average ratio is 10.65 during the study period, standard deviation is 6 and the coefficient of variation is 56.34.

Figure 4.18

Net Profit to Total Deposit Ratio

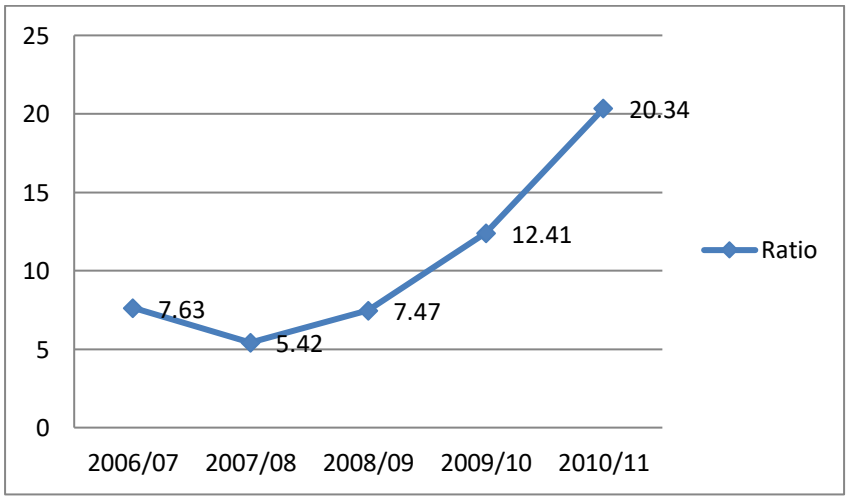


Figure 4.18 indicates that the net profit ratio is in decreasing trend in 1st year and after 2nd year the ratio is slightly increasing way . It means this ratio is fluctuated during the study period.

4.4.3 Correlation Analysis

Correlation analysis is the statistical tool that we can use to describe the degree to which one variable is linearly. Two or more variables are said to be correlated if change in the value of variable appears to be related or linked with the change in the other variables. The relationship between age, height and weight are studies by correlation. Correlation is an analysis of the covariance between two or more variables and it deals to determine the degree of relationship between two or more variables. It does not tell us anything about cause and effect relationship i.e. if there is a high degree of correlation between two variables we cannot say which the causes are and which is the effect. Sometimes., correlation does not necessarily imply causation while causation always implies correlation. In correlation analysis, only one variable is treated as dependent and one or more variables are treated as in dependent. Among the various method of finding out the coefficient of correlation, Karl person's method is applied in the study. The result of coefficient of correlation, Karl person's method is applied in the always lies between +1 and -1 when the coefficient of correlation 'r' is +1 there is perfect positive relationship between two variables and vice-versa. When (r) is 0 there is no relationship between two variables. Under this topic, this study tries to find out relationship between the following variables.

i. Coefficient of Correlation between Current Assets and Current Liabilities.
ii. Coefficient of Correlation between Total Deposit and Net Profit.
iii. Coefficient of Correlation between Total Deposit and Loan and Advances.

The above analysis tools analyze the relationship between these the relevant variables and help the bank to make sound policies regarding deposit collection, fund utilization (loan and advances and investment) and profit maximization.

The following formula is used to find out the relationship:

Coefficient of correlation (r) = $\frac{\sum xy}{\sqrt{\sum x^2}\sqrt{\sum y^2}}$

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

Nearer the value of r to +1 closer will be the relationship between two variables and nearer the value of r to 0 lesser will be the relationship.

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

Where, P.E. = Probable error of correlation coefficient

r = Correlation Coefficient

n = Number of observations

(i) Coefficient of correlation between current assets and current liabilities

The following table describes the relationship between current assets and current liabilities of Nabil Bank with comparatively less than five year study period. In the following case, current assets are independent variables (x) and current liabilities are dependent variable (y).

Table 4.14

Coefficient of Correlation of Current Assets and Current Liabilities

Bank	r	P.E.	6 x P.E.	Result
Nabil	-0.593	0.196	1.176	Not significant

Source: Appendix 26

Table 4.14 indicates that the coefficient of correlation between current assets and current liabilities of Nabil Bank limited is -0.593. It means there is low degree of negative relationship of both components. The value of r is less than the 6 times of P.E. which indicates that there is no significant relationship between current assets and current liabilities.

ii. Coefficient of correlation between total deposit and net profit

Table 4.15

Coefficient of Correlation of Total Deposit and Net Profit

Bank	r	P.E.	6 x P.E.	Result
Nabil	0.2116	0.288	1.728	Not conclusion

Source: Appendix 27

Table 4.15, it can be interred that the coefficient of correlation between total deposit and Net profit of Nabil Bank Limited is positive here, P.E. = 0.288 > r = 0.2116 < 6 P.E. = 1.728 this implies though during the study period there exit positive correlation between total deposit and net profit, no conclusion could be derived as to statistically significant/ insignificant.

iii. Coefficient of correlation between total deposit and loan and advances:

The basic function of the every bank is to collect deposit and invest their funds on loan and advances. Large amount of loan and advance to generate higher profit.

Table 4.16

Coefficient of Correlation of Total Deposit and Loan and Advances

Bank	r	P.E.	6xP.E	Result
Nabil	0.229	0.287	1.722	No Conclusion

Sources: Appendix 28

Table 4.1, it can be inferred that the coefficient of correlation between total deposit to loan and advances in Nabil Bank is positive. Since, P.E. = 0.2877 r = 0.229 < 6 P.E. = 1.722, this implies though during the study period there exit positive correlation between total deposit and loan and advances, no conclusion could be derived as to statistically significant/insignificant

4.5 Major Findings:

Basically in this research work, all the data has been obtained from secondary sources. Data has been analyzed by using financial as well as statistical tools. This topic focuses on the major finding of the study, which are derived from the analysis of working capital position of the Nabil Bank comparatively applying five years from 2007 to 2011.

The major findings of the study derive from the analysis of financial of the banks are given below:

- The major components of current assets of Nabil Bank are cash and bank balance, money at call & short notice, loan and advances, investment govt. securities. In the study period the proportion of cash and bank balance, loan and advances, investment govt. securities and money at call & short notice to total current assets on average percentages are 19.0014%, 25.4041&, 33.97464%, and 13.9583% respectively. It shows that the average percentage of cash and bank balance, loan and advances, investment govt. securities were higher than the money at call & short notice. The current assets average trend is increasing and decreasing.
- The average net working capital of Nabil Bank is 26928.018. All of the net working capital is not positive in the study period. Negative working capital indicates the insufficient amount of bank which is harmful to the Bank and positive networking capital indicates the sufficient amount of this bank. The networking capital ranges from 2815.54 to 96252.92. the standard deviation of net-working capital is 55951.794 and C.V. is 207.78.
- The liquidity position of the Nabil Bank analyzed with the current ratio, quick ratio and cash balance to deposit ratio. The current ratios of Nabil Bank over the study period were 240.93, 225.31, 103.37, 92.71 and 74.31. It is increasing and decreased trend and the average current ratio is 147.33 standard deviation and coefficient of variation of this ratio is 79.20 and 53.76 respectively. The quick and cash deposit ratio's average is 108.7 and 37.31. Then the S.D. and C.V. of quick ratio's is 80.35, 73.92 and cash deposit ratio's 20.23, 54.22. This shows the liquidity position or short-term solvency during the study period. Although the higher liquidity means lower risk as well as lower profit in general, it doesnot necessarily mean lower profit in case of every bank.
- Saving deposit to total deposit ratio are fluctuating during the study period. It is ranges from 8.88 to 14.70. The average ratio is 11.524. High ratio indicates more short term and less costly sources of funds. Similarly the low ratio indicates long term and costly sources of fund.
- The profitability is the measures of efficiently of the profitability of Nabil Bank is analyzed from various angles. The average value of interest on to total assets ratio

is 305.45. And net profit to total assets average ratio is 112.968. When these ratio are high, then more efficiently using its total assets to earn interest income.

- The trend value of interest earned to total assets ratio are decreasing then slightly increased. Although the net profit to total assets ratio and net profit to total deposit ratio are more fluctuating in the study period. It shows that the Nabil Bank is not able to efficiently use its working capital funds of assets to earn higher rate of profit during the study period.
- The correlation coefficient of current assets and current liabilities of Nabil Bank is not significant correlated. The value of 'r' is -0.593 which indicates negative relationship between current assets and current liabilities. The coefficient of correlation of total deposit to net profit and total deposit to loan and advance of the bank is not correlated. The value of 'r' is 0.2116 and 0.229, P.E. is 0.288 and 0.287. The 6 times of P.E. is 1.728 and 1.722 respectively. It shows there are no relationship between total deposit and net profit or total deposit and loan & advances.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENATION

This chapter is final chapter of the study, so this highlights some actionable Summary, Conclusion and Recommendation. On the basic of the main findings, which are derived from the analysis of Nabil Bank Ltd. The analysis is performed with the help of financial and statistical tools. The analysis is associated with comparision and interpretation. Under financial analysis various financial ratios related to the working capital management is used. They are liquidity ratio, activity or turnover ratio, profitability ratio, composition of working capital and net working capital. Under statistical analysis some relevant statistical tools are used which are mean/average, standard deviation, coefficient of variation, coefficient of correlation, trend analysis and probable error.

5.1 Summary

In financial sector, establishment of commercial banks, especially joint venture banks has continued in response to the economic liberalization policies of the government. Bank is a resources mobilization institution which aspect deposits from various sources and invest in the fields of agriculture, foreign trade, commerce and industry etc. Bank helps to mobilize the small saving collectively to huge capital markets.

Commercial Banks are rapidly opened, so that at present there are 32 commercial Banks are operating in Nepal. Commercial banks with higher technology and efficient methods in banking sector especially after the political reform of the country. In this study only one commercial bank has been undertaken i.e. Nabil Bank Limited. This study has been completed on the basis of secondary data. The main objective of the study is the analysis of the working capital as well as ratio analysis of Nabil Bank ltd. To fulfill this objective as described in chapter one, an appropriate research methodology has development, which includes the ratio analysis as a financial tools and statistical tools. The major ratio analysis consists of the composition of working capital position, liquidity ratio, activity ratio and profitability ratio. In chapter four, the ratio and their trend position were studied. In order to test Karl Person's correlation coefficient (r) is calculated and relation between the various component of working capital.

The objectives are to evaluate the working capital management and financial analysis of Nabil Bank and to identify their strength and weakness. Theoretical framework of ratio analysis, correlation between two variables, it's important and limitations, research methodology and limitation of the study are mention.

In this study, the finding of financial tools liquidity ratio, activity or turnover ratio, profitability ratio, composition of working capital and Net working capital and statistical tools like mean/average, standard deviation, coefficient of variation, coefficient of correlation, trend analysis and probable error have been used for the analysis and interpretation of data. The secondary data are used in the analysis which gives clear picture of the performance of the bank with regard to its operation. All the information and data are obtained from the websites and annual reports of the Nabil Bank. The financial statement of five years (2006/07 to 2010/011) was selected for the purpose evaluation.

5.2 Conclusion

Working capital management is one of the most important part of every financial institution. Due to the growing competition in banking sector every bank should care about its working capital as life blood of business. In this research work researcher find out to the situation of working capital position. The researcher is using various financial and statistical tools. After that the researcher derived some important conclusion from the study.

The average current ratio of Nabil Bank is 1.4733 (147.33) which is less than standard current ratio 2:1 . The Nabil Bank is unable to maintain the current ratio with the standard ratio. The mean of quick ratio is 108.70. It is not standard ratio. The average cash, loan and advances and misc, current assets percentage are in increasing trend but bank balance, money at call & short notice and investment govt. securities is decreasing trend. The net working capital of Nabil Bank has negative in the 4^{th} & 5^{th} year of study period and other three year is positive net working capital. Nabil bank 4^{th} and 5^{th} year is inadequate or negative net working capital which is harmful to the bank. So that the Nabil Bank able to maintain adequate liquidity position to meet the short term liabilities with current assets. The profitability position of interest earned to total assets ratio is in

increasing trend shows that the Nabil Bank is efficiently using its total assets so that bank is sufficient total fund for using to earn interest income. From the activity turnover ratio, the position of turnover ratio is increasing trend. It shows that the bankers are able to utilize the depositor's fund to earn profit by providing loan and advances. Nabil Bank is utilizing saving deposits to income generating purpose. The average of saving deposit is 198.57. The net profit to total assets ratio and net profit to total deposit ratio are in increasing trend only last three year in the study period. It shows that the Nabil Bank is going to improve its working funds of assets and total deposit earn higher rate of profit during study period. It shows that the bank has not satisfactory level of generating profit. The bank should take strong steps for the strong marketing and development of strategy for earn higher profit. The correlation of the variable selected for the statistical analysis shows that Nabil Bank has not significant relationship between current assets and current liabilities. While analyzing the correlation coefficient of total deposit to net profit and total deposit to loan and advance of Nabil Bank are not correlated.

5.3 Recommendation

On the basis of analysis major finding, conclusion and some important recommendations have been forwarded. Nabil Bank limited has more experience and more standard bank in the Nepalese Commercial banking sector with a competent managerial team some weakness have come into light through the study. The Nabil Bank may use it as a remedial measure. The some recommendations have been following.

- The Nabil Bank is suggested to improve its deposits and credits to increase its volume of banking sector
- Positive working capital represent the sound management of the bank. Similarly, the negative working capitals represent the poor financial management of the bank. In case of Nabil Bank has negative networking capital in the 4^{th} and 5^{th} year of study period that is not good for the bank and we have always found positive net working capital in the bank. So the Nabil Bank should maintain the size of current assets and current liabilities.
- The liquidity position of current ratio, quick ratio and cash and bank balance to deposit ratio of this bank less than normal standard ratio. This shows that the

liquidity position and short term solvency is not better. Therefore, the Nabil Bank should increase the current assets and cash and bank balance.

- The Nabil Bank should maintain significant relationship between loan and advance to total deposit, total deposit to net profit and current assets and current liabilities in coming year.
- Since the economy of the country has become weaker, the studied banks are advised to concentrate more on risk free securities and riskfree loans.
- Last, but not least the bank should keep in a peace with the changing banking technology, improve organization structure, provide quality services to its customer and activity participate in social welfare programme and organization culture that acquire, develops utilizes and maintains the employees in a high moral is preferred.

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Websites

www.nabilbank.com

www.nrb.com

www.studyfinance.com

Reports

Appendix –1

Nabil Bank Limited

Five year balance sheet

'In Rs. Million'

Particular	2006/07	2007/08	2008/09	2009/10	2010/11
Assets					
Cash balance	2704.06	5114.26	6743.95	6359.86	5522.59
Bank balance	11294.18	21597.13	26981.16	7641.11	9254.27
Money at calls short notice	5635.32	19523.60	5528.88	31181.44	15631.34
Investment	89453.10	99397.71	10826.37	13670.91	16250.82
Loan & Adcances	15545.77	21365.05	27589.93	32268.87	36167.20
Misc./ other assets	5120.50	6063.93	8646.95	9126.65	11012.52
Total current assets	129752.93	173061.68	86317.24	100248.841	93838.44
Fised Assets	2868.95	5980.38	6609.88	7795.39	8980.9
Less: Depreciation	3173.219	3579.39	3369.10	3867.46	4365.82
Net fixed Assets	-304.26	2400.99	3240.78	3927.93	4615.08
Add mise Assets	5120.50	6063.93	8646.95	9126.65	11012.52
Total Assets liabilities	4816.24	8464.9232.	11887.73	13054.58	15627.6
Current liabilities					
Saving deposit	10187.35	121589.96	14620.407	13783.58	14960.21
Current deposit	33952.39	52843.68	54805.33	79046.19	95136.24
Bills payable	835.148	2384.21	4631.38	4254.43	4068.25
Mise. Current liabilities	8879.70	9420.90	9444.57	11044.38	12120.67
Total current labilities	53854.60	76808.76	83501.70	108128.58	126285.4
Fixed deposit	54351.89	84640.86	83107.08	14711.15	30560.21
Long term liabilities	29396.22	40371.98	51115.45	42096.45	45230.78
Total capita; and liabilities	137602.725	201821.6049	217724.24	164936.27	202076.39

Appendix-2
Nabil Bank Limited
Profit and Loss Statement

(In Rs. Million)

S.N.	Particular	2006/07	2007/08	2008/09	2009/10	2010/11
1	Interest Income	15877.58	19786.96	27984	40477.25	65384.23
2	Interest expenses	5557.101	7584.36	11532.80	19601.08	25200
	Net Interest Income	10320.48	12202.60	16452.06	20876.17	40184.23
3	Commission discount	1506.08	1562.34	1796.93	2154.81	4110.85
4	Other operating income	875.74	974.45	1441.64	1695.48	1817.24
5	Exchange income	2099.26	1694.87	2519.19	2914.40	2751.86
	Total operating Income	14801.57	16704.27	22209.83	27640.88	48864.18
6	Personal expenses	2401.61	2629.075	3398.97	3671.62	3958.78
7	Other operating expenses	1881.833	2207.50	2651.58	3346.68	4178.93
	Operating profit before prvision of loss	10518.13	11867.69	16159.27	20622.56	40726.47
8	Provision for loss	142.06	640.55	457.22	3558.29	4122.77
	Operating profit	10376.06	11227.13	15702.04	17064.27	36603.7
9	Non-operating income	52.806	240.83	21.901	64.54	80.21
10	Provision for possible loss write back	109.26	111.005	106.178	397.91	526.72
	Profit from regular activities	10538.138	11578.98	15830.12	17526.74	37210.63
11	Income from extra ordinary act	407.366	399.91	435.218	343.21	392.34
	Profit from all activities	10945.50	11978.89	16265.344	17869.96	37602.97
12	Provision for staff bonus	995.045	1088.99	1478.66	1625.18	1816.58
13	Provision for income tax	3210.86	3425.21	4476.14	4859.07	10348.33
	This year	3145.26	3426.68	4707.019	4728.23	10042.10
	Previous year	65.59	0.528	9.187	8.319	10.68
	Net profit/loss	6739.59	7464.68	(240.06)	11385.70	Differed Tax - 295.55
	Net profit					25438.06

Appendix-3

Calculation of Trend value of Cash Balance Percentage

Fiscal year (X)	Cash balance (Y)	x = X-08/09	X^2	XY	YC = a+bx
2006/07	2.08401	-2	4	-4.16802	2.81808
2007/08	2.95516	-1	1	-2.95516	3.91715
2008/09	7.81298	0	0	0	5.01622
2009/10	6.34407	1	1	6.34407	6.11529
2010/11	5.88489	2	1	11.76978	7.21436
	Σy =25.08111		Σx^2=10	Σxy = 1099067	

Here,

Σy =25.08111

Σx^2=10

Here, Σxy = 1099067

Where,

n = Total number of year

Yc = Estimate value of y for give value of x in co-ordinate axis.

a = y intercept of mean of y value

b = slope of line or rate of change

x = variable in time axis

So,

$a = \frac{\Sigma y}{N}$ = 25.0811/5 = 5.01622

$b = \frac{\Sigma xy}{\Sigma x^2}$ = 10.99067/10 = 1.09907

Appendix-4

Calculation of Trend value of Bank Balance Percentage

Fiscal year (X)	Bank balance (Y)	x = X-08/09	X^2	XY	YC = a+bx
2006/07	8.7043	-2	4	-17.4086	14.49357
2007/08	12.4794	-1	1	-12.4794	14.23937
2008/09	31.2581	0	0	0	13.98517
2009/10	7.62214	1	1	7.62214	13.73097
2010/11	9.86192	2	4	19.72384	13.47677
	Σy =69.92586		Σx^2=10	Σxy = -2.54202	

Here,

Σy =69.92586

Σx^2=10

Here, Σxy = -2.54202

Where,

n = Total number of year

Yc = Estimate value of y for give value of x in co-ordinate axis.

a = y intercept of mean of y value

b = slope of line or rate of change

x = variable in time axis

So,

$a = \frac{\Sigma y}{N}$ = 69.92586/5 = 13.98517

$b = \frac{\Sigma xy}{\Sigma x^2}$ = -2.54202/10 = -0.25420

Appendix-5

Calculation of Trend value of Money at Call & Short Notice Percentage

Fiscal year (X)	(money at call & short notice) (Y)	x = X-08/09	X^2	XY	YC = a+bx
2006/07	4.34311	-2	4	-8.68622	5.06787
2007/08	11.2812	-1	1	-11.2812	9.51307
2008/09	6.4053	0	0	0	13.95827
2009/10	31.10404	1	1	31.10404	18.40347
2010/11	16.65771	2	4	33.31542	22.84867
	Σy =69.79136		Σx^2=10	Σxy = 44.45204	

Here,

Σy =69.79136

Σx^2=10

Here, Σxy = 44.45204

Where,

n = Total number of year

Yc = Estimate value of y for give value of x in co-ordinate axis.

a = y intercept of mean of y value

b = slope of line or rate of change

x = variable in time axis

So,

$a = \frac{\Sigma y}{N}$ = 69.79136/5 = 13.95827

$b = \frac{\Sigma xy}{\Sigma x^2}$ = 44.45204/10 = 4.44520

Appendix-6

Calculation of Trend value of Investment Govt. securities percentage

Fiscal year (X)	Investment Govt. securities (Y)	x = X-08/09	X^2	XY	YC = a+bx
2006/07	68.9411	-2	4	-137.8822	63.38351
2007/08	57.4348	-1	1	-57.4348	48.67908
2008/09	12.5425	0	0	0	33.97465
2009/10	13.63697	1	1	13.63697	19.27022
2010/11	17.31787	2	4	34.63574	4.56579
	Σy =169.87324		Σx^2=10	Σxy = -147.04429	

Here,

Σy =169.87324

Σx^2=10

Here, Σxy = 147.04429

Where,

n = Total number of year

Yc = Estimate value of y for give value of x in co-ordinate axis.

a = y intercept of mean of y value

b = slope of line or rate of change

x = variable in time axis

So,

$a = \frac{\Sigma y}{N}$ = 169.87324/5 = 33.97465

$b = \frac{\Sigma xy}{\Sigma x^2}$ = 147.04429/10 = -17.704429

Appendix-7

Calculation of Trend value of Loan and Advance Percentage

Fiscal year (X)	Loan and Advanced (Y)	x = X-08/09	X^2	XY	YC = a+bx
2006/07	11.9810	-2	4	-23.962	10.81101
2007/08	12.3453	-1	1	-12.3453	18.10755
2008/09	31.9634	0	0	0	25.40409
2009/10	32.1887	1	1	32.18877	32.70063
2010/11		2	4	77.08398	39.99717
	Σy =127.02046		Σx^2=10	Σxy = 72.96545	

Here,

Σy =127.02047

Σx^2=10

Here, Σxy = 72.96545

Where,

n = Total number of year

Yc = Estimate value of y for give value of x in co-ordinate axis.

a = y intercept of mean of y value

b = slope of line or rate of change

x = variable in time axis

So,

$a = \frac{\Sigma y}{N}$ = 127.02046/5 = 25.40409

$b = \frac{\Sigma xy}{\Sigma x^2}$ = 72.96545/10 = 7.29654

Appendix-8

Calculation of Trend value of Misc. Current Assets Percentage

Fiscal year (X)	Misc. Current Assets (Y)	x = X-08/09	X^2	XY	YC = a+bx
2006/07	3.9463	-2	4	-7.8926	3.44034
2007/08	3.54039	-1	1	-3.54039	5.55456
2008/09	10.0176	0	0	0	7.66878
2009/10	9.10399	1	1	9.10399	9.783
2010/11	11.73562	2	4	23.47124	11.89722
	Σy =38.3439		Σx^2=10	Σxy = 21.14224	

Here,

Σy =38.3439

Σx^2=10

Here, Σxy = 21.14224

Where,

n = Total number of year

Yc = Estimate value of y for give value of x in co-ordinate axis.

a = y intercept of mean of y value

b = slope of line or rate of change

x = variable in time axis

So,

$a = \frac{\Sigma y}{N}$ = 38.3439/5 = 7.66878

$b = \frac{\Sigma xy}{\Sigma x^2}$ = 21.14224/10 = 2.11422

Appendix-9

Cash balance to Current Assets Percentage

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	2.08401	-2.93217	8.59762
2007/08	2.95516	-2.06102	4.24780
2008/09	7.81298	2.7968	7.82209
2009/10	6.34407	1.32789	1.76329
2010/11	5.88489	0.86871	0.75466
N = 5	Σx_1 = 25.08111		Σd_1^2 = 23.18546

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{25.0811}{5}$$

$$= 5.01618$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma d1^2}{N-1}}$$

$$= \sqrt{\frac{23.18546}{5-1}}$$

$$= 2.4076\%$$

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{\bar{x}} \text{ x } 100$$

$$= \frac{2.4076}{5.01618} \text{ x } 100$$

$$= 47.9967\%$$

Or = 48%

Appendix-10

Bank balance to Current Assets Percentage

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	8.7043	-5.28087	27.88759
2007/08	12.4794	-1.50577	2.26734
2008/09	31.2581	17.27293	298.35411
2009/10	7.62214	-6.36303	40.48815
2010/11	9.86192	-4.12325	17.0012
N = 5	Σx_1 = 69.9259		Σd_1^2 = 385.99839

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{69.9259}{5}$$

$$= 13.98517$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{385.99839}{5-1}}$$

$$= 9.8234\%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{9.8234}{13.98517} \text{ x } 100$$

$$= 70.24\%$$

Appendix-11

Money at Call & Short Notice to Current Assets Percentage

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	4.34311	-9.61519	92.45188
2007/08	11.2812	-2.6771	7.16686
2008/09	6.4053	-7.553	57.04781
2009/10	31.10404	17.14574	293.9764
2010/11	16.65771	2.69941	7.28681
N = 5	Σx_1 = 69.79136		Σd_1^2 = 457.92976

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{69.79136}{5}$$

$$= 13.9583$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma d1^2}{N-1}}$$

$$= \sqrt{\frac{457.92976}{5-1}}$$

$$= 10.6996\%$$

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{\bar{x}} \text{ x } 100$$

$$= \frac{10.6996}{13.9583} \text{ x } 100$$

$$= 76.65\%$$

Appendix-12

Investment Govt. Securities to Current Assets Percentage

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	68.9411	34.96646	1222.6533
2007/08	57.4348	23.46016	550.37911
2008/09	12.5425	-21.43214	459.33662
2009/10	13.63697	-20.33767	412.62082
2010/11	17.31787	-16.65677	277.44799
N = 5	Σx_1 = 169.8732		Σd_1^2 = 2923.43784

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{169.8732}{5}$$

$$= 33.97464$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{2923.43784}{5-1}}$$

$$= 27.03441\%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{27.03441}{33.97464} \text{ x } 100$$

$$= 79.57\%$$

Appendix-13

Loan and Advance to Current Assets Percentage

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	11.9810	-13.4231	180.17961
2007/08	12.3453	-13.0588	170.53225
2008/09	31.9634	6.5593	43.02442
2009/10	32.18877	6.78467	46.03175
2010/11	38.54199	13.13789	172.60415
N = 5	Σx_1 = 127.02046		Σd_1^2 = 612.37218

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{127.02046}{5}$$

$$= 25.4041$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma d1^2}{N-1}}$$

$$= \sqrt{\frac{612.37218}{5-1}}$$

$$= 12.3731\%$$

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{\bar{x}} \text{ x } 100$$

$$= \frac{12.3731}{25.4041} \text{ x } 100$$

$$= 48.71\%$$

Appendix-14

Misc. Current Assets to Current Assets Percentage

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	3.9463	-3.72248	13.85686
2007/08	3.54039	-4.12839	17.0436
2008/09	10.0176	2.34882	5.51696
2009/10	9.10399	1.43521	2.05983
2010/11	11.73562	4.06684	16.53919
N = 5	Σx_1 = 38.3439		Σd_1^2 = 55.01644

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{38.3439}{5}$$

$$= 7.66878$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{55.01644}{5-1}}$$

$$= 3.70865\%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{3.70865}{7.66878} \text{ x } 100$$

$$= 48.36\%$$

Appendix-15

Net Working Capital

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	75898.33	48970.312	2398091457
2007/08	96252.92	69324.902	4805942037
2008/09	2815.54	-24112.478	581411595
2009/10	-7879.74	-34807.758	1211580017
2010/11	-32446.96	-59374.978	3525388013
N = 5	Σx_1 = 134640.09		Σd_1^2 = 12522413120

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{134640.09}{5}$$

$$= 26928.018$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma d1^2}{N-1}}$$

$$= \sqrt{\frac{12522413120}{5-1}}$$

$$= 55951.794\%$$

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{\bar{x}} \text{ x } 100$$

$$= \frac{55951.794}{26928.018} \text{ x } 100$$

$$= 207.78\%$$

Appendix-16

Current Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	240.93	93.6	8760.96
2007/08	225.31	77.98	6080.8804
2008/09	103.37	-43.96	1932.482
2009/10	92.71	-54.62	2983.34
2010/11	74.31	-73.02	5331.92
N = 5	Σx_1 = 736.63		Σd_1^2 = 25089.58

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{736.63}{5}$$

$$= 147.33$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{25089.58}{5-1}}$$

$$= 79.20\ \%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{79.20}{147.33} \text{ x } 100$$

$$= 53.76\ \%$$

Appendix-17

Quick Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	202.56	93.86	8809.69
2007/08	189.60	80.9	6544.81
2008/09	59.97	-48.73	2374.61
2009/10	54.42	-54.28	2946.32
2010/11	36.95	-71.75	5148.06
N = 5	$\Sigma x_1 = 543.5$		$\Sigma d_1^2 = 25823.49$

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{543.5}{5}$$

$$= 108.7$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma d1^2}{N-1}}$$

$$= \sqrt{\frac{25823.49}{5-1}}$$

$$= 80.35\ \%$$

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{\bar{x}} \text{ x } 100$$

$$= \frac{80.35}{108.7} \text{ x } 100$$

$$= 73.92\ \%$$

Appendix-18

Cash and Bank Balance to Total Deposit Ratio (Excluding Fixed Assets)

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	41.23	3.92	15.37
2007/08	50.55	13.24	175.29
2008/09	61.54	24.23	587.09
2009/10	17.71	-19.6	384.16
2010/11	15.53	-21.78	474.37
N = 5	Σx_1 = 186.56		Σd_1^2 = 1636.28

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{186.56}{5}$$

$$= 37.31$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{1636.28}{5-1}}$$

$$= 20.23\ \%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{20.23}{37.31} \text{ x } 100$$

$$= 54.22\%$$

Appendix-19

Saving Deposit to Total Deposit Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	11.54	0.016	0.000256
2007/08	8.88	-2.644	6.990736
2008/09	10.60	-0.924	0.853776
2009/10	14.70	3.176	10.086976
2010/11	11.90	0.376	0.141376
N = 5	$\Sigma x_1 = 57.6$		$\Sigma d_1^2 = 18.07312$

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{57.6}{5}$$

$$= 11.524$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{18.07312}{5-1}}$$

$$= 2.13\ \%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{2.13}{11.524} \text{ x } 100$$

$$= 18.48\ \%$$

Appendix-20

Loan and Advanced to Total Deposit Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	17.60	-5.66	32.0356
2007/08	15.53	-7.73	59.7529
2008/09	20	-3.26	10.6276
2009/10	34.41	11.15	124.3225
2010/11	28.77	5.51	30.3601
N = 5	Σx_1 = 116.31		Σd_1^2 = 257.0987

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{116.31}{5}$$

$$= 23.26$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{257.0987}{5-1}}$$

$$= 8.02\ \%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{8.02}{23.26} \text{ x } 100$$

$$= 34.48\ \%$$

Appendix-21

Loan and Advanced to Fixed Deposit Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	28.60	-56.34	3174.1956
2007/08	25.24	-59.7	3564.09
2008/09	33.19	-51.75	2678.0625
2009/10	219.34	134.4	18063.36
2010/11	118.35	33.41	1116.2281
N = 5	Σx_1 = 424.72		Σd_1^2 = 28595.94

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{424.72}{5}$$

$$= 84.94$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma d1^2}{N-1}}$$

$$= \sqrt{\frac{28595.94}{5-1}}$$

$$= 84.55\ \%$$

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{\bar{x}} \text{ x } 100$$

$$= \frac{84.55}{84.94} \text{ x } 100$$

$$= 99.54\ \%$$

Appendix-22

Loan and Advanced to Saving Deposit Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	152.59	-45.98	2114.1604
2007/08	175.70	-22.87	523.0369
2008/09	188.70	-9.87	97.417
2009/10	234.11	35.54	1263.092
2010/11	241.76	43.19	1865.3761
N = 5	Σx_1 = 992.86		Σd_1^2 = 5863.0824

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{992.86}{5}$$

$$= 198.57$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{5863.0824}{5-1}}$$

$$= 38.29\ \%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{38.29}{198.57} \text{ x } 100$$

$$= 19.28\ \%$$

Appendix-23

Interest Earned to Total Assets Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	329.66	24.21	586.124
2007/08	233.75	-71.7	5140.89
2008/09	235.40	-70.05	4907.002
2009/10	310.06	4.61	21.252
2010/11	418.39	108.94	11867.924
N = 5	Σx_1 = 1527.26		Σd_1^2 = 22523.192

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{1527.26}{5}$$

$$= 305.45$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{22523.192}{5-1}}$$

$$= 75.04\ \%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{75.04}{305.45} \text{ x } 100$$

$$= 24.57\ \%$$

Appendix-24

Net Profit to Total Assets Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	139.93	26.96	726.842
2007/08	88.18	-24.788	614.44
2008/09	86.73	-26.238	688.43
2009/10	87.22	-25.748	662.96
2010/11	162.78	49.812	2481.235
N = 5	Σx_1 = 564.84		Σd_1^2 = 5173.907

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{564.84}{5}$$

$$= 112.968$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma d1^2}{N-1}}$$

$$= \sqrt{\frac{5173.907}{5-1}}$$

$$= 35.96\ \%$$

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{\bar{x}} \text{ x } 100$$

$$= \frac{35.96}{112.968} \text{ x } 100$$

$$= 31.83\ \%$$

Appendix-25

Net Profit to Total Deposit Ratio

Year	x_1	$d_1=(x_1-\bar{x}_1)$	d_1^2
2006/07	7.63	-3.02	9.1204
2007/08	5.42	-5.23	27.3529
2008/09	7.47	-3.18	10.1124
2009/10	12.41	1.76	3.0976
2010/11	20.34	9.69	93.8961
N = 5	$\Sigma x_1 = 53.27$		$\Sigma d_1^2 = 143.579$

Average/mean ($\bar{x}$) = Σx 1/N

$$= \frac{53.27}{5}$$

$$= 10.65$$

Standard deviation (σ) = $\sqrt{\frac{\Sigma d1^2}{N-1}}$

$$= \sqrt{\frac{143.579}{5-1}}$$

$$= 5.99$$

$$= 6\ \%$$

Coefficient of variation (C.V.) = $\frac{\sigma}{\bar{x}}$ x 100

$$= \frac{6}{10.65} \text{ x } 100$$

$$= 56.34\ \%$$

Appendix-26

Calculation of Correlation Coefficient between Current Assets and Current Liabilities of Nabil Bank

Let, x and y denote the total current assets and current liabilities respectively

Year	C.A (X)	C.L (Y)	X = (X-$\bar{X}$)	X^2	Y = (Y-$\bar{Y}$)	Y^2	XY
2006/07	129752.93	53854.60	13109.104	171848607.7	-35861.21	1286026383	-470108331.5
2007/08	173061.68	76808.76	56417.854	3182974250	-12907.05	166591939.7	-728188062.5
2008/09	86317.24	83501.70	-30326.586	919701818.4	-6214.11	38615163.09	188452741.3
2009/10	100248.84	108128.58	-16394.986	268795565.9	18412.77	339630099.31	-301877106.4
2010/11	93838.44	126285.4	-32446.96	1052805213	36569.59	1337334913	-1186572024
N = 5	Σx = 583219.13	Σy = 448579.04		Σx^2 = 5596125455		Σy^2 =3167598498	Σxy = -2498292783

Average/mean ($\bar{X}$) = Σx

$$= \frac{\Sigma x}{N}$$

$$= \frac{583219.13}{5}$$

$$= 116643.826$$

Average/mean ($\bar{Y}$) = $\frac{\Sigma Y}{N}$

$$= \frac{448579.04}{5}$$

$$= 89715.81$$

Here,

$\Sigma x^2 = 5596125455$

$\Sigma y^2 = 3167598498$

$\Sigma xy = -2498292783$

Now,

$$\text{Correlation (r)} = \frac{\Sigma xy}{\sqrt{\Sigma x^2}\sqrt{\Sigma y^2}} = \frac{-2498292783}{\sqrt{5596125455}\sqrt{3167598498}} = \frac{-2498292783}{4210.258731}$$

$$= -0.593$$

$$\text{P.E.} = = \frac{0.6745\ (1-r^2)}{\sqrt{n}} = \frac{1-(-0.593)^2}{\sqrt{5}} = \frac{0.4373}{\sqrt{5}} = 0.196$$

Appendix-27

Calculation of Correlation Coefficient between total Deposit and Net Profit

Let, x and y denote the total deposit and net profit

Year	Total deposit (X)	Net profit (Y)	X = (X-$\bar{X}$)	X^2	Y = (Y-$\bar{Y}$)	Y^2	XY
2006/07	88304.28	6739.59	-28326.72	802403066	-5528.122	30560132.85	156593564
2007/08	137484.54	7464.68	20853.54	434870130.5	-4803.032	23069116.39	-100160219.9
2008/09	137912.41	10310.53	21281.41	452898411.6	-1957.182	3830561.38	-41651592.59
2009/10	93757.34	11385.70	-22873.66	523204321.8	-882.012	777945.1681	20174842.6
2010/11	125696.45	25438.06	9065.45	82182383.7	13170.348	173458066.4	119385131.3
N = 5	Σx = 583155.02	Σy = 61338.56		Σx^2 =2295558314		Σy^2 = 231695822.2	Σxy = 154351725.4

Average/mean ($\bar{X}$) = Σx

$$= \frac{\Sigma x}{N}$$

$$= \frac{583155.02}{5}$$

$$= 116631.0$$

Average/mean ($\bar{Y}$) = $\frac{\Sigma Y}{N}$

$$= \frac{61338.56}{5}$$

$$= 12267.712$$

Here,

$\Sigma x = 583155.02$

$\Sigma y = 61338.56$

$\Sigma x^2 = 583155.02$

$\Sigma y^2 = 61338.56$

$\Sigma xy = 154351725.4$

Now,

$$\text{Correlation (r)} = \frac{\Sigma xy}{\sqrt{\Sigma x^2}\sqrt{\Sigma y^2}} = \frac{154351725.4}{\sqrt{2295558314}\sqrt{231695822.2}} = \frac{154351725.4}{729295050.7}$$

$$= 0.2116$$

$$\text{P.E.} = = \frac{0.6745\ (1-r^2)}{\sqrt{n}} = \frac{0.6745\ (1-0.2116)^2}{\sqrt{5}} = \frac{0.644299}{2.236068} = 0.288$$

Appendix-28

Calculation of Correlation Coefficient between Total Deposit and Loan and Advances

Let, x and y denote the total deposit and loan and advances.

Year	Total deposit (X)	Loan and Advance (Y)	$X = (X-\bar{X})$	X^2	$Y = (Y-\bar{Y})$	Y^2	XY
2006/07	88304.28	15545.77	-28326.72	802403066	-11041.594	121916798.1	312772141.6
2007/08	137484.54	21365.05	20853.54	434870130.5	-5222.314	27272563.51	-108903733.9
2008/09	137912.41	27589.93	21281.41	452898411.6	1002.566	1005138.584	21336018.1
2009/10	93757.34	32268.87	-22873.66	523204321.8	5681.506	32279510.43	-129956836.5
2010/11	125696.45	36167.20	9065.45	82182383.7	9579.836	91773257.79	86845524.27
N = 5	Σx = 583155.02	Σy = 132936.82		Σx^2 = 2295558314		Σy^2 = 274247268.4	Σxy = 182093113.6

Average/mean $(\bar{X}) = \Sigma x$

$$= \frac{\Sigma x}{N}$$

$$= \frac{583155.02}{5}$$

$$= 116631.0$$

Average/mean $(\bar{Y}) = \frac{\Sigma Y}{N}$

$$= \frac{132936.82}{5}$$

$$= 26587.364$$

Here,

$\Sigma x = 583155.02$

$\Sigma y = 132936.82$

$\Sigma x^2 = 2295558314$

$\Sigma y^2 = 274247268.4$

$\Sigma xy = 182093113.6$

Now,

$$\text{Correlation (r)} = \frac{\Sigma xy}{\sqrt{\Sigma x^2}\sqrt{\Sigma y^2}} = \frac{182093113.6}{\sqrt{2295558314}\sqrt{274247268.4}} = \frac{182093113.6}{793442245.6}$$

$$= 0.229$$

$$\text{P.E.} = = \frac{0.6745\ (1-r^2)}{\sqrt{n}} = \frac{0.6745\ (1-0.229)^2}{2.23} = \frac{0.639}{2.23} = 0.287$$