CHAPTER-I

INTRODUCTION

1.1 Background of the Study

Financial institution in the economy plays a crucial role in the process of economic growth of the country. Financial institution refers to a business concern which is mainly confined to finance for the development of the trade, commerce and industry. Bank is a financial institution which primarily deals in borrowing and lending. Banking is a vital part of national economy and vehicle for the mobilization of economy's financial resources and extension of credit to the business and service enterpriser.

Financial institutions are currently viewed as catalyst in the process of economic growth of a country. A key factor in the development of an economy is the mobilization of the domestic resources. As intermediaries the financial institution helps the process of resources mobilization. The importance of financial institution in the economy has of late grown to an enormous extent. Policies such as lending to the priority sector lending to the educated unemployed people creation of entrepreneurship in the society are certain examples. Which the governments in developing economics try to implement with the help of financial institutions. Commercial banks are the head of the financial system. They hold the deposits of individual's government establishment and business unit. They make funds available through their lending and investing activities to borrower. They provide a large portion of medium of exchange and they are the media through which monetary policy is affected. These facts show that the commercial banking system of a nation is very important to the functioning of its economy. (Van and James; 2053: 146).

The concept of financial institutions in Nepal was introduced when the first commercial bank, Nepal bank limited was established in Kartik 30. In Baisakh 14 2013 B.S the first central bank named as Nepal Rastra Bank was established with an objective of supervising protecting and directing the functions of commercial banking activities with the growing activities in the country the

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necessity of an additional commercial bank was realized in the country. Consequently, another commercial bank fully owned by the government named as Rastriya Banijya Bank was established in 2022 B.S. In the fiscal year 2039/40 new Banking policy was introduced for the establishment of new banks by the joint investment of foreign nations. Its objective was to create healthy competitive banking system and to provide cheap banking facilities to the people. The establishment of joint-venture banks gave a new horizon to the financial sector of the country. Nepal Arab Bank limited is first joint venture commercial bank incorporating in 2041 B.S. the second JVBs, Nepal investment Bank Ltd was established in the 2043 B.S.

In global prospective joint ventures are the mode of trading through partnership between nation and also a form of negotiations between various group and services for sharing comparative advantages. A Joint venture is the joining of forces between two or more enterprises for the purpose of carrying out a special operator industrial or commercial investment production and trade. Proper financial decision making is extremely important in banking transaction for its efficiency and profitability. Most of the financial decisions of a bank are concerned with current assets and current liabilities. The working capital management of a bank is different from other types of business enterprises. A bank plays a significant role to fulfill the requirement of working capital of other type of business enterprise.

Investment in working capital of other business enterprises is a part of current assets of bank's working and we can consider deposits and short tern of current liabilities.

1.2 Brief Introduction of Sample Banks

Nepal Bangladesh Bank Ltd. (NBBL)

Nepal Bangladesh Bank Ltd. was established in 2051 B.S with an authorized capital of Rs. 20 million and paid up capital of Rs. 60 million as a joint venture bank with IFIC of Bangladesh. Currently the bank has an authorized capital of Rs. 359.9 millions. Its head office is situated at New Baneshwor, Bijuli Bazar, Kathmandu. The

prime objective of this bank is to render banking services to the different sectors like industries, traders, businessman, priority sector, small entrepreneurs and weaker section of the society and every other people who need banking services. During the period of 10 years of its operation it has been able to provide excellent services to its clients. The bank has introduced its first ATM facility at Kathmandu plaza, putalisadak branch to give 24 hours. 365 days banking services to their valued customers. The bank earned the glory providing the services to almost all the top business houses of the country and it occupies one of the leading positions among the joint ventures banks in Nepal. The bank is still pursuing to accommodate as many clients as possible.

Everest Bank Limited

Everest Bank Limited (EBL) started its operation in 2051 with a view and objectives of extending professionalized and efficient banking services to various segments of the society. The bank is providing customer friendly services through a network of 26 branches across the nation. Punjab National Bank (PNB), joint venture partner of the bank (holding 20% equity in the bank) is the largest nationalized bank in India having 113 years of banking history. PNB is a technology driven bank serving over 35 million customers through a network of over 4,500 branches spread all over the country with a total business of around INR 2178.74 billion. Management of the EBL is being handled by PNB under the Management Service Contract. The bank has been conferred with "Bank of the Year 2063, Nepal" by the banker, a publication of financial times, London. The bank was bestowed with the "NICCI Excellence award" by Nepal India chamber of commerce for its spectacular performance under finance sector. The shareholding pattern of the bank is 50% promoters, 30% public and 20% Punjab National Bank.

1.3 Focus of Study

Bank is a business organization where monitory transaction occurs. It create funds from its clients. Saving and lends the same to needy person or business companies in term of loans, advances and investment. The concept of financial institution in Nepal was introduced when the first commercial bank, the Nepal

bank ltd was established in Kartik 30, 1994 B.S as a semi government organization.

Commercial banks are the head of the financial system. They hold the deposits of many persons, government establishment and business units. They make funds available through their lending and investing activities to borrower's individuals, business firms and government establishment. In doing so, they assist both the flow of goods and services from the procedures to consumers and financial activities of the government. They provide large portion of medium of exchange and they are the media through which monitory policy is affected. These facts show that the commercial banking system of the nation is important to the functioning of the economy. In the fiscal year 2039/2040, New banking policy was introduced for the establishment of new banks by the joint investment of foreign nations. The establishment of joint venture banks gave a new horizon to the financial sector of the country proper financial decision making is move important in banking transition for its efficiency and profitability. Most of the financial decisions of bank are concerned with current assets and current liabilities. The working capital management of a bank is different from other types of business enterprises. A bank plays significant role to fulfill the requirement of working capital of any other type of business enterprise. It also needs efficient management. Investment in working capital other business enterprises is a part of current assets of bank is 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.

1.4 Statement of Problem

Working capital is a crucial capital which is compared as life blood of the human beings for any organization. The management of working capital is synonymous to the management of short-term liquidity. It is no 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 more financial risk can go for more short liquidity. The more of short term liquidity means move of current assets and less of current liabilities. So, it is very essential analyze and

find out problem and its solution to make efficient use of funds for minimizing the risk of loss to attain profit objective. As the management of current liabilities of the business organization is necessary for day to day operations, it plays the key role in the success or failure of an organization.

Joint venture bank like Nepal Bangladesh Bank limited and Everest Bank Limited are playing an important role in the economic development of the country.

The working capital has to be regarded as one of the conditioning factors in the long range analysis and decision making. To achieve the goal of overall business, the determinants of working capital management should be as accurate as possible. The investment decision should be made on any type of current assets by considering their role in corporation and determining which one is move beneficial to the corporation and which not.

Working capital of the organization cannot be managed in an easy way and it should not be neglected. Further the banker's problem in this regard is more difficult than of manufacturing and non-Manu fact business organization.

Institutions important to the general welfare of the economy more than any other financial institution. They have a vastly sobering exacting responsibility. They must be ready to pay "on demand" without working or notice a good share of their liabilities. Different Types of deposits are the main source of fund which they can use of giving loans and advance to different sectors. Hence in order to have a higher return from their transaction bank must try to increases their deposit as well as their investment.

To fix the level of deposit and capacity of mobilizing these deposits is main problem of working capital management of bank.

The some issues to be investigated are as under:

) What are the major factors affecting the management of working capital in NBBL and EBL?

) Is the composition of working capital of NBBL and EBL appropriate?

) What are the components of working capital which affect the operating income of NBBL and EBL most significantly?

1.5 Objectives of the Study

The major objectives of this study are to examine of the mgmt of working capital in Nepal Bangladesh Bank Limited and Everest bank Limited. The Specific objectives of this study are as follows:

) To study the working capital management of NBBL and EBL.

) To study the position of current assets and current liabilities and their impact.

) To examine the liquidly and profitability position of NBBL and EBL.

) On the basis of the analysis to provide recommendation and suggestion for the improvement of the working capital management of NBBL and EBL in the future.

1.6 Significance of the Study

Working capital is the size of investment in each type of current assets. Each of the current assets should be managed efficiently and effectively. It is because decision regarding working capital affects not only the profitability of the firm in the short-term but also it's very survival in the long-rein. Working capital is regarded as the life blood and nature of a business concern and is essential to accommodate the smooth operations of any organization. The success or failure of any organization depends on it strategy on its favor. If the working capital management financial viability and the company could not able to sustain itself in long run. Therefore it is felt significant to the management to be more concentrated in the area of working capital management.

The need of the study like this arises from the real nature of the banking business and also forms the impact that it has in the economy of the country. Therefore it has been felt very necessary to evaluate the position of working capital management and to focus on the importance the working capital management in NBBL and EBL.

1.7 Limitation of the Study

This study is simply for partial fulfillment of the requirement of Master in Business Studies (MBS). However there are some limitations, which narrowed the generalizations. For instant inadequate coverage of industries, time periods taken reliability of statistical tools used and other variations. The study is completely based on the data collected from the banks. The following are the some limitations of the study:-

) The study is limited to information available for last five year data from 2063/2064 to 2067/2068 for secondary data analysis.

) The study is mostly based on secondary data which may or may not provide exam-vision of the tiled.

) The study will depend upon the true response and the data provided by the management of the banks.

) Time and resources are the main limitation to the study.

) This study would only concern with fulfilling in partial requirement in master of business studies (MBS).

1.8 Organization of the Study

This thesis has been divided in to five chapters. They are:

) Introduction
) Review of literature
) Research methodology
) Data presentation and Analysis
) Summary, conclusion

The introduction chapter covers general background statement of the problem, objectives of the study, focus of study and limitation of the study.

The second chapter focuses on review of literature. It contains the conceptual framework and past research literature on working capital management of various book and research works.

The third chapter deals with the research methodology to be adopted for the study consisting research design, sources of data, data processing procedure, tools and techniques of analysis and period covered.

The fourth chapter contains presentation and analysis of data. In this chapter data are collected through balance sheet and profit and loss account and one presented in tables. Analysis and interpretation of data have been performed and major finding of the study.

The fifth or last chapter covers summary, conclusion and recommendation. Finally on extensive bibliography and appendices are presented at the end of the study.

CHAPTER-II
REVIEW OF LITERRATURE

This chapter deals light on the conceptual frame work of working capital management it also provides insight into findings of earlier studies through the review of book publications and previous studies. Review of literature means reviewing research studies or other relevant propositions in the related area of the study so that all the past studies, their conclusions and deficiencies may be known and further research can be conducted. Since completely new and original problems are rare it is necessary to show how the problem under investigation relates to previous research works done under similar topic, however a previous study not be exactly replicated. It is believed that the review of literature is literature which is helpful to show the needs of the research work and to justify the work, it tries to clear the conceptual thought and bank related terms.

2.1 Conceptual Framework

The concept evolved from the concept of commerce and bank. Commercial bank is the financial institution that deals in accepting deposits of individuals and institutions, and giving loans against securities. Commercial bank also provides technical and administrative assistance to industries, trades and businesses. There are different types of banks such as agriculture bank industrial bank, joint venture bank etc. this classification is done on the basis of their functions, which they render to their customer. With regard to the functions of banks, commercial bank performs their own functions, which are different from the functions performed by the other banks.

Working Capital management is the mix of firm's permanent long term financing represented by the debt, preferred stock and common stock equity (Van Horne, 2054:112).

Working capital management of the firm is the permanent financing represented by long-term debt, preferred stock and shareholders' equity. Thus, a firm's capital structure is only part of its financial structure (Western and Brigham 2035: 19).

2.2 Concept of Working Capital Management

The term working capital management is closely related with short-term finance and it is concerned with collection and allocations of the resources. Working capital management is related to the problem that arises in attempting to manage the current assets, the current liabilities and the inter-relationships that exist between them. Thus the management of working capital is no longer viewed as an accounting task but as a strategic method for increasing the financial performance of leading organizations. While early initiatives for reducing days sales outstanding have Longley focused on post invoice collections and dispute management today, the ability to drive. Working capital management throughout the entire quote-to cash cycle has proven to deliver an exponential effect on DSO and the overall customer experience.

Working capital refers to the firm that are used to conduct operations to do day to day work that makes the business successful without cash bills cannot be paid without receivables the firm cannot be paid without receivables the firm cannot allow timing difference between delivering goods or services and collecting the money to pay for them. As a result of the critical nature of current assets the management o working capital is one of the most important areas in determining whether a firm will be successful. The term working capital refers to the current assets of the firm those items that can be converted into cash with in the year. Working Capital management is the management for the short-term. It is process of planning and controlling the level of miser of current assets of the firm as well as financing these assets.

It concludes decision regarding cash and marketable securities receivables inventories and current liabilities with an objective of maximizing the overall value of a firm. Mainly there are two concept of working capital gross concept and net concept.

2.2.1Concepts of Working Capital

There are two concepts or working capital:

i)   **Gross concept**   **ii) Net Concept**

The term "Gross Working Capital" also referred to as working capital means the total current assets. Similarly, "Net Working Capital" can be defined in two ways: (I) the most common definition of Net Working Capital (NWC) is difference between current assets and current liabilities, (II) and alternative definition of NWC is that portion of firm's current assets which is financed with long-term funds (Gitman, 2033: 133).

WC has to be regarded as one of the conditioning factors in the long-run operations of firm which is often inclined to treat it as and issue of short-run analysis and decision-making. WC management involves deciding upon the amount of composition of CA and how finances these assets (Kuchal, 2038: 152)

There are two concepts of working capital-gross concepts and net concepts. Gross WC, simply called as Working capital, refers to the firm's investment in current assets. Current assets are the assets which can be converted into cash within an accounting year (or operating cycle) and include cash short-term securities, debtors, bills receivables and stock (inventory). Net Working Capital refers to the different between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected for payments with in an accounting year and include creditors, 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. A negative net working capital will occur when current liabilities are in excess of current assets (Pandey, 2051: 96)

The two concepts of working capital- gross and net are not exclusive; rather they have equal significance from management viewpoint. The gross working capital concept focuses attention on two aspects of current assets management, (a) optimum investment in current assets and (b) financing of current assets. The consideration of the level of investment in current assets should avoid two-danger points- excessive and inadequate investment in current assets. Investment in current assets should be just adequate, nor more not less, to the needs of the business firm. Excessive investment in current assets should be avoided because it impairs firm's profitability, as idle investment earns nothing. On the other hand, inadequate amount of current assets can threaten solvency of the firm if it fiats to meet its current obligations. It

should be realized that the working capital needs of the firm might be fluctuating with changing business activity. This may cause etches or shortage of working capital frequently. The management should be prompt to initiate an action and correct imbalances (Pandey, 2051: 69)

2.2.2 Types of Working Capital

There are two types of working capital management

1. Permanent working capital:

Permanent Working Capital: It refers to that level of current assets which is required in a continuous basis over the entire year. A manufacturing concern cannot operate regular production and sales functions in the absence of this portion of working capital. Therefore, a manufacturing concern holds certain minimum amount of working capital to ensure uninterrupted production and sales functions.(Srivastav, 2041: 49)

2. Temporary Working Capital

Temporary working capital is also known as variable, seasonal and fluctuate working capital. It represents the extra working capital, required at certain times during the operation year to meet some special exigency. It may required in seasonal changes of business and certain abnormal conditions like strikes, lockouts dull market conditions competition etc. Therefore, the firm to meet liquidity requirements that will last only temporarily creates temporary working capital.-

Figure: 1.1

Permanent and Temporary working capital
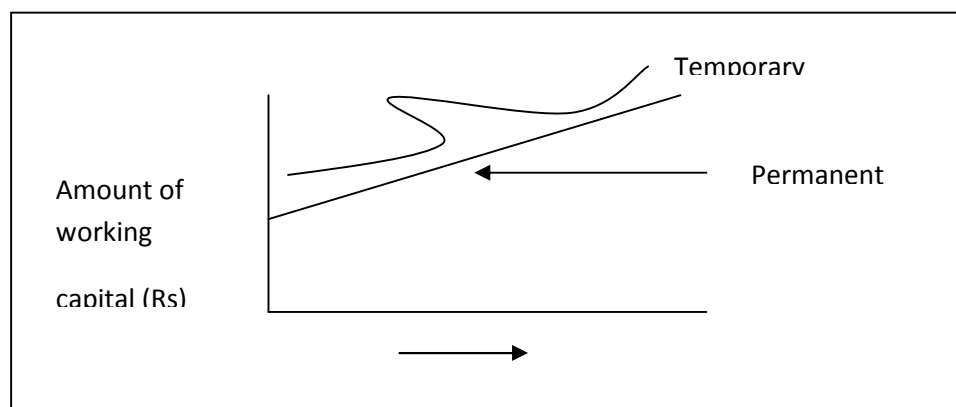
(Source: Van Horne, 2053)

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2.2.3 Working Capital Policy

Be over looked in its management the components of WC constitute the current assets and they are way financing i.e. current liabilities. The term current assets refers to those assets which is the ordinary course of business can be or will be turned into cash within one year without undergoing a diminution in value and without disrupting the operation of the firm (Khan & Jain, 2050: 125).

In an enterprise the level and quality of current assets and current liabilities is guided by the WC policy and management adopted by it. WC management involves all aspects of the administration of current assets and current liabilities.

In other word, WC management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the interrelationships that exist between them. The crux of the problem whole formulating working capital policy is to maintain optimality on at the level of investment in cash and the financing of current assets. There should be optimum investment in the level of current assets because excessive or idle investment in current assets earns nothing to the enterprise and consequently affects the profitability. On the other hand, inadequate level of investment in current assets threatens the solvency of the enterprises if it fails to meet obligation when they become due. So, WC policy should be designed to overcome such imbalance when they arise.

In the same way the financing aspects of currents should not. Because whether to use long term or short-term funds to finance currents have significant impact on an enterprise risk or return, liquidity and profitability. As it is known funds long term as well as short term involve cost. And cost of financing is a deciding factor in the use of type of funds in any enterprises.

Generally short term funds have lower cost of financing and are preferred to be used in current assets. But it may hold good also. Because depending upon the nature of management towards risk, liquidity and profitability, the enterprise can adopt one of the varieties of approaches to fit its particular WC financing requirements. The following are the main approaches of financing the WC need of the enterprise.

2.2.4 Current Assets Investment Policy

Current assets investment policy refers to the policy regarding the total amount of current assets to be carried to support the given level of sales. How much a firm will invest in CA will depend on its operating cycle. There are three alternative current assets investment policies fat cat. Lean and mean and modern. (Western and Brigham; 2053: 121)

i) Fat policy

This is known as relaxed current assets investment policy in this policy the firm holds relatively large amount of cash, marketable securities inventory and receivable to support given level of sales. This policy creates longer inventory and cash conversion cycles.

ii) Lean and mean policy:

In lean and mean policy, a firm holds the minimum amount of cash, marketable securities inventory and receivable to support a given level of sales.
This policy tends to reduce the inventory and receivable conversion cycle.

iii) Moderate policy

In this policy, a firm holds the amount of current assets in between the relaxed and restrictive policies. Both risk and return are moderate in this policy.

2.2.5 Working Capital Financing Policy

As current assets plays crucial role in any concern, it is must that working capital financing policy should clearly outline the different sources of finding in current assets. The manner in which the permanent and temporary current assets are financed constitutes the firm's working capital financing policy (Weston and Brigham; 2044: 117) there are three working capital financing policies maturity matching aggressive and conservative.

i) Maturity Matching Policy

Under this policy, the firm uses long term financing to finance permanent current assets and short term financing to finance temporary variable current assets.

Maturity matching policy lies in between the aggressive and conservative policies. There is neither high nor low level of current assets and current liabilities.

ii) Aggressive Policy

In aggressive policy all the fixed assets of a firm are financed with long term capital, but some of the firm's permanent current assets are financed with short-term, no spontaneous source of fund. In other words the firm finances not only temporary current assets but also a part of permanent current assets with short-term financing.

iii) Conservative Policy

In the policy the use of short-term fund is restricted to the emergency situation when there is necessity to invest current assets. Otherwise the long-term fund should be used as far as possible in financing of investment in current assets. A firm may adopt a conservative policy in financing its current and fixed assets. The financing policy of the firm is said to be conservative when it depends move on long-term funds for financing needs. The conservative financing relies heavily on long-term financing and, therefore is ten risky. He has described various aspects of working capital management. He has divided working capital management's into five chapters. The first chapter deals with the concept of working capital, need for working capital, determinant and of working capital, issues in working capital management, estimating working capital needs and financing current assets. In the second chapter he has described the management of receivable, in which he has dealt with goals of credit management, optimum credit policy, aspects of credit policy, and credit producers for individual accounts. In the third chapter on inventory management he has described the need to hold inventories objectives of inventory management, inventory management techniques, selective inventory control technique and financial manager's role in inventory management. In the fourth he has described the management of cash and marketable securities, where he has dealt with facets of cash management motives for holding cash, cash planning, managing the cash flows, determining the optimum cash balance, investment in marketable

securities. Lastly, in the fifth chapter, he has described the financing of working capital with various methods such as trade credit, bank finance and commercial paper.

2.3 Review and Journals and Articles

Some of the journals and articles published by management expert in working capital management have been reviewed in this section.

Shrestha, (2039) has published an article titled *"working capital management"* of ten selected public enterprises (PES). He has especially focused on the liquidity turnover and profitability position of those enterprises. In this analysis it was found that four PE.S. He has especially focused on the liquidity turnover and profitability position of those enterprises. In this analysis, it was found that four PR.S has maintained adequate liquidity position two PE is has excessive and remaining four PE.S had failed to maintain desirable liquidity position on the turnover side, two PE.s had negative working capital turnover, four had adequate turnover, and one had higher turnover on net working capital He has also found that out of ten EP.s, six were operating in losses while only four were getting some percentage of profit with the reference of his. Findings, he has brought certain policy issues such as lack of suitable financial planning negligence of working capital management deviation between liquidity and turnover of assets and inability to show the positive relationship between turnover and return on net working capital. At the end, he had made some suggestive measures to overcome from the above policy issues i.e. identification of needed funds regular check of account, development of management information system positive attitude towards risk and profit and determination of right combination of short- termed and long-term source of funds to finance working capital needs.

Pradhan (2061), in his article, *"the demand for working capital by Nepalese corporations"* selected nine manufacturing public corporations for the analysis with 12 years data 2030 to 2042. Regression equation had been adopted for the analysis. From his study, he concluded that:

Earlier studies concerning the demand for cash and inventories by business firms did not report unanimous findings. A lot of controversies exist with respect to the presence of economies of scale, role of capital cost, capacity utilization rates, and the speed with which actual cash and inventories are adjusted to describe cash and inventories respectively. The pooled regression results strongly suggested that the demand for working capital and its components is a function of both sales and their capital costs. The estimated results revealed that the inclusion of capacity utilization variable in the model seemed to have contributed to the demand functions of cash and net working capital only. The effect of capacity utilization on the demand for inventories, receivables and gross working capital was doubtful.

Pradhan and Koirala (2063) had jointly published an article on *"some reflections of working capital management in Nepalese corporations"*. This article aims to find out the difficulty, problems and importance of current assets management and also aims to find out the motive for holding cash and inventory, the study use only primary data to find out the basic constraints and distributed 200 questionnaires. For the purpose of study, they use both manufacturing public corporation as a sample companies. After analyzing the collected data the major findings of this study are as follows:

) To provide a reserve for routine net outflows of cash is the major motive for holding cash in Nepalese corporation.

) The major reason for holding inventories is to facilitate smooth operation of production and sales.

) The major factor affection the large investment in receivable is found to be the liberal credit policy followed by Nepalese corporation. The large paying practice of customer is also responsible for larger investment in receivable. However, corporations are reluctant to take inefficient collection of trade credit as one of the major factor affecting receivables.

) Public enterprises should take care of negatively affecting policies directives from HMG Nepal itself.

) Public enterprises should avoid fictitious holding of assets immediately.

) Finance staff must be adequate with the modern scientific tools used for the presentation and analysis of data.

) Lastly, this study has suggested optimizing its level of investment because both of these situations will erode the efficiency of concern.

Mahat (2064) has published article relating to *"spontaneous resources working capital Management"*. The article has defined the three major sources of working capital i.e. equity financing, debt financing and spontaneous sources of financing, regarding the working capital management. Debt financing includes short term, bank financing such as bank overdraft, cash credit, bills purchase and discounting, letter of credit etc. whereas spontaneous sources of working capital include trade credit, provisions and accursed expenses.

The articles 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 enough to cope with the possible worst happening in future for working capital management.

The study has said that managing the working capital resources for a profit making industries are routine 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 the way of debt financing, the company should have to bear interest, which may cause 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 capital in order to improve its performance.

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

2.4 Review of Dissertations

Various research works have been done by MBS student in different aspects of commercial banking such as financial performance working capital management

etc. Studies and reviews on working capital management of other organization and their conclusion are relevant to my study. Some reviewed previous dissertations are as follows.

Mahato (2063) in this study *"Working Capital of Nepal Lever Limited"*. This study has covered the span of five years, Fiscal year 2057/058 to 2061/062. The objectives of the study were to analysis the liquidity compaction of working capital, assets utilization and profitability of Nepal liver limited to examine the relationship between liquidity and profitability of Nepal liver limited and know whether the Nepal liver maintained optimum level of working capital or not. In his study, the methodologies used are ratio analysis test of hypothesis and correlation analysis and the major finding of his study.

His Major Objectives:
) To analyze the liquidity composition of working capital (assets utilization and profitability position).
) To study the relationship between sales and different variable of working capital of NBCL.

His Major Findings:
) The major components of current assets in Nepal liver limited are inventories, study debtors, cash and bank balance and mescals current assets. During the study period investing holds the major providing in Nepal liver Limited. It was found that out of total current assets, inventory held the largest portion followed by misc. CA, cash and bank balance and sundry debtors respecting.
) The current ratio of the company ranged in between 1.32 to 2.59 times during the study period. In fluctuation trend. The company was unable to maintain its current ratio 2:1 in average of the study period.
) The proportion of current to net sales varied from 23.46% to 47.39% during the study i.e. the current investment policy of Nepal liver Limited has been title towards the related policy. Therefore, it has not proper utilization of CA.

⟩ The major component of CL in Nepal Liver Limited is loan and advance, sundry creditors and misc. current liabilities and provision.

⟩ SCBL had the highest mean EPS and EBL had the lowest mean EPS during the study period.

Shrestha (2064) has carried out his thesis entitled *"A study on working capital management of Nepal Diary Development Corporation"*. He has taken five years study period and applied the secondary data.

His Major Objectives:

⟩ To appraise the working capital management of DDC.

⟩ To study the relationship between sales and different variables of working capital.

His Major Findings:

⟩ The Major components of current assets are inventory, cash and bank balance sundry debtors and miscellaneous current assets in which inventory hold the major position and cash hold the smallest position.

⟩ Company's investment in form of working capital has been increasing. The average investment in current assets in lower with respect to net fixed assets during the study period and DDC has on clear vision about the investment in current assets to fixed assets position.

⟩ There is growing tendency of investment over current assets.

⟩ Liquidity position of the company is not well because current and quick ratios are below standard value.

⟩ Because of high collection, period, turnover position of the company in weak.

⟩ The overall return position of DDC is negative because of inefficient utilizing of CA, TA and shareholders wealth.

His Major Recommendation:

⟩ DDC should minimize its current assets by adjusting on inventory and cash balance. It should increase production capacity by investing capital goods.

⟩ Reduce operating cost by avoiding unnecessary manpower and expenses.

Shrestha (2066) has done a research on *"Working capital management of selected manufacturing companies in Nepal"* .The study is covered only the five years data of 2059 to 2063. It study is based on only six manufacturing companies, like unlevel ltd bottlers Nepal, Dabur Nepal, Dairy development corporation, Nepal tea development corporation and Nepal drugs.

His Major Objectives:
- To examine the position of working capital is selected companies.
- To analyze risk return of working capital position.
- To assets than turnover of working capital and analyze.

His Major Findings:
- Is the composition of working capital in manufacturing companies is appropriate.
- The overall selected manufacturing companies are positive on other correlation coefficients between various components of working capitals with moderate sales.
- Those liquidity and profitability position of all selected companies is satisfactory.

His major recommendations:
- Company should have proper plan to manage their current liabilities and should determine the appropriate source of fund to finance working capital.
- These selected companies should manage receivable and inventory conversion period by applying suitable credit policy.
- These studies mention about operating cost, which must be reduced in proper way so that companies can maximize their profitability and shareholder's returns.

Timilesina, (2067) in the thesis entitled *"A study on working capital management of Nepalese joint venture Bank"* has covered the period of five years (2061/2062 to 2065/2066) data. He had basically used the secondary and

mainly financial tools are embodied for analyzing the working capital management of selected joint venture banks.

His Major Objectives:
- ⟩ To examine the current assets and current liabilities position.
- ⟩ To revel the specific performance in working capital management.
- ⟩ To evaluate the each type of current assets of the Nepalese joint venture Bank

His Major Findings:
- ⟩ To analysis the CA and CL of the selected banks.
- ⟩ To evaluate and analyze the net profit on CA, debt to equity and EPs of the selected joint venture banks.
- ⟩ Find the basis reasons of the working capital management good or bad.
- ⟩ The company has used the supplies money to finance working capital management.
- ⟩ Uniliver Nepal Limited adopted spontaneous financing policy of working capital.

Shrestha (2068) has done a research on *"A study on working capital management of Nepal lube oil limited."*

His Major Objectives:
- ⟩ To examine the working capital position of NLOL.
- ⟩ To examine the structure of working capital.
- ⟩ To assess the financial liquidity position of the NLOL.

His Major Findings:
- ⟩ The company had lesser participation of fixed assets in total assets. cash holds of the company was relatively a small proportion total assets and inventory held largest portion indicating un sounded inventory management.
- ⟩ The company has insufficient in collecting receivable

His Major recommendations

NLOL management determines certain rate of return on its investment and setup sales target.

) The company should always concern about the current assets and current liabilities and regarding check should make.

) This study has also given the advice that the company should give attention to manpower planning should avoid both under and over staffing.

2.5 Research Gap

Many researchers have been conducted in working capital management. In the previous research different statistical tools such as correlation analysis, ration analysis and trend analysis has been used to identify the relationship between various components, which affect the working capital. In the present research researcher has used the statistical tools such as ratio analysis, correlation analysis, composition of working capital its trend analysis has been used to find out the impact of working capital with various variables such as profit, current assets, component of current assets, components of current liabilities. Apart from this, the secondary data has also been used to analyze the impact of working capital management and its effect on organizational efficiency, which may be a new concept for present research. My research study is based on different variables and tools using new data (2063-2068).

CHAPTER-III
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a sequential procedure and collection of scientific method to be adopted in a systematic study. In other, word, research methodology describes the method and process applied in the entire aspect of the study. It is a way to systematically solve the research problem. It may be understood as a scientifically. This chapter deals with the research design nature of data, data gathering procedure, population and samples, and data processing procedures.

3.2 Research Design

Research Design means a definite procedure and technique, which guides the study and propounds way for doing research. Its impact on overall financial position of these two banks. In this study a descriptive and analytical survey is done. The justifications for the choice of this method i.e. preferred because it includes reliable data and information covering a long time and avoid numerous complex variables operating into formulation and adoption of credit and investment policies " Research design is a plan structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances (Acharya, K; 2042: 147).

3.3 Populations and Sample

Till the date there are 32 commercials banks in Nepal. The name and the year of the establishment of the commercial banks in Nepal have been listed below.

List of commercial banks in Nepal

S. No.	Banks	Established Date(B.S)
1.	Nepal Bank Limited	1994
2.	Rastriya Banijya Bank	2022
3.	NABIL Bank limited	2041
4.	Nepal Indosuez Bank Limited	2042
5.	Nepal Grind lays Bank Limited	2043
6.	Himalayan Bank Limited	2050
7.	Nepal SBI Bank Limited	2050
8.	Nepal Everest Bank Limited	2051
9.	Nepal Bangladesh Bank Limited	2051
10.	Bank of Katmandu Limited	2052
11.	Nepal Bank of Ceylon Limited	2053
12.	NMB Bank Limited	2053
13.	Nepal Industrial and Commercial Bank Limited	2055
14.	Lumbini Bank Limited	2055
15.	Machhapuchhre Bank Limited	2056
16.	Kumari Bank Limited	2058
17.	Development Credit Bank Limited	2058
18.	Laxmi Bank Limited	2059
19.	Siddhartha Bank Limited	2060
20.	Agriculture Development Bank Limited (ADB)	2063
21.	Global Bank Limited	2064
22.	Citizen Bank Limited	2064
23.	Prime Bank Limited	2064
24.	Bank of Asia Limited	2064
25.	Sunrise Bank Limited	2064
26.	NMB bank Limited	2065
27.	Kist Bank Ltd.	2066
28.	Janata Bank	2067
29.	Commerz and Trust bank	2067
30.	Civil Bank	2068
31.	Century Bank Ltd.	2068
32.	Sanima Bank Ltd.	2069

Source: Nepal Rastriya Bank

The collection or the aggregate of objects or the set of results of an operation is called population. A representative part of population which we select for the purpose of

investigation is called a sample. At present there are thirty two commercial banks operating in Nepal. Hence, these all thirty two commercial banks constitute the population of this study. Among of them two commercial banks NBBL and EBL are selected as the sample banks for the purpose of this study.

Out of various method of selecting a sample judgment sampling was followed in order to choose NBBL and EBL among the available commercial banks in Nepal. Moreover the selection of these banks is also based on the advice of experts of relevant field, guide and convenes sampling method.

3.4 Nature and Sources of Data

The data used in this study are basically secondary in nature. Published annual report of the concerned banks is taken basic source of data. The data relating to financial performance are directly obtained from the concerned banks. Similarly, related books, magazines, journals, articles, report from Nepal stock exchange related website etc. As well as other supplementary data and various economic surveys are also used. Previous related studies to the subject are also counted assure of information.

3.5 Data Processing Procedure

Since the data have been obtained from secondary sources, after collection of financial statement master sheet of financial data have been extracted and tabulated as per the need of this study. In order to process the data, financial statement and other available information were reviewed. These data were grouped in different tables and charts according to their nature. Most of the data have been compiled in one from and processed and interpreted as required.

3.6 Tools of Data Analysis

Financial as well as the statistical tools are used to make the analysis move convenient, reliable and authentic for data analysis, different items from the balance sheet and other statement are tabulated. Their ratios, percentage mean standard deviation and coefficients of variations are then calculated and presented in the tables. To study the relationship between two or more variable,

correlation coefficients are also calculated. In order to know about the sources and applications of the fund, funds flow statement is prepared. Likewise, trend analysis is also used to know the trend of various ratio following are the brief introductions of the financial and statistical tools used in this study.

3.6.1 Financial Tools

Financial ratios are calculated to ascertain the financial condition of the firm. It is the relationship between financial variables contained in the financial statements (i.e. balance sheet, profit and loss account and income statements).

It helps the related parties to spot out the financial strength and weakness of the firm. There are several financial tools which can be applied in order to analyze the performance of commercial bank. The tools financial tools used in this study are as follows: Liquidity Ratio, Activity Ratio and profitability Ratio. Likewise, net working capital and composition of working capital is terms of cash and bank balance percentage, loan and advance percentage government sanities percentage and miscellaneous current assets percentage are calculated.

1. Liquidity Ratio

This ratio measures the liquidity position and short-term solvency of the firm indicating the company's ability to meet short-term obligation. The current ratio and quick ratio measure the liquidity position of the company. 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. Commercial banks need liquidity to met loan demand and deposit with drawer without good liquidity bank is not able to operate its function. To measure the bank is 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:

2. Current Ratio

Current ratio measures the short-term solvency i.e. its ability to measure short-term obligation. In other words current ratio measures the ability to pay debts. As a measure of creditors various current assets. It indicates each rupee of current assets available by dividing current assets by current liabilities.

$$\text{Current Ratio (CR)} = \frac{\text{Current Assets (CA)}}{\text{Current Liabilities (CL)}}$$

Current assets include cash and those assets which can be converted into cash within a year. Such as debtor receivable, cash and bank balance, prepaid expresses inventory etc.

Current liabilities mean all obligations maturing within a year. Under the current liabilities include secondary creditor provision for taxation bank loan, miscellaneous current liabilities and provision.

3. Quick Ratio

Quick ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash is the most liquid assets. Other assets which are considered to be relatively liquid and included in quick assets are book debts and marketable securities. Thus, QA includes the all or current assets except inventory or short. Inventory cannot be converted into cash immediately. This quick ratio can be found out by dividing the total of quick by total current liabilities.

$$\text{Quick Ratio (QR)} = \frac{\text{Quick Assets (QA)}}{\text{Current liabilities (CL)}}$$

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 deposits). The ratio can be expresses as:

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

4. Fixed Deposit Total Deposit Ratio

Fixed deposit is a long term and high intent change bearing deposit. Although a high cost liability, increasing fixed deposit is subject to an additional advantage if Utilized properly sufficient fixed deposits enable banks to grant long-term loan to their clients at higher interest rate. This ratio is calculated in order to find out the proportion of total deposit that has higher intent change bearing. The higher the ratio the more the intent bearing deposits as well as better liquidity and lower preparation of current or short-term deposits. it is computed by dividing the amount of fixed deposits by the total deposits amount which is expressed as follows:

$$\text{Fixed Deposit to total Deposits Ratio} = \frac{\text{Fixed Deposit}}{\text{Total Deposit}}$$

5. Saving Deposit to total Deposit Ratio

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

$$\text{Saving Deposit to Total Deposit ratio} = \frac{\text{Saving Deposits}}{\text{Total Deposits}}$$

a. 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 current 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 or turnover into profit generating assets. These ratios, moreover, help in measuring the banks ability to utilize their available resources. Following ratio are used under the activity ratios.

b) Loan and Advances to Total Deposit Ratio

These ratio assets to what extent, the banks are able to utilize the depositor's funds to earn profit by providing loans and advances. It is computed dividing the total amount of looms and advances by total deposited funds. The formula used to compute this ratio is as:

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

6. Loan and Advance to Fixed Deposit Ratio

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

$$\text{Loan and advance to total Deposit Ratio} = \frac{\text{Loans and advance}}{\text{Fixed deposit}}$$

7. Loan and Advances to Savings Deposit Ratio

This ratio is also employed for the purpose of measuring utilization of saving deposits in generating revenue by giving loan and advance 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 purpose where as loan and advances are the short term investment for revenue comes. This ratio indicates how much short term intent bearing deposits are utilized for income generating purpose. The formula for this ratio is as follows:

$$\text{Loans and advances to saving Deposit Ratio} = \frac{\text{Loans and advance}}{\text{Saving Deposit}}$$

a. 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.

Shareholders, bankers, government, tax collectors, employees are concerned with profit ability of the company, the share holders are interested with their rate of return, employees in the future 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 terms of a relationship between net profit and asset. This ratio is also known as profit-t- asset ratio. It measures the profitability of investment.

Various ratio can be developed based upon the profit under different ratios are called profit ability ratios, which are required to support the purpose of the study. The profitability ratios calculated in this study are:

b. Interest Earned to total Assets Ratio

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

$$\text{Intent Earned to total assets ratio} = \frac{\text{Intent earned}}{\text{Total assets}}$$

c. 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. Hence,

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

d. Cost of Services to Total Assets Ratio

A sound management always tries to utilize its larger amount of assets with minimum cost. Cost of services to total assets ratio is useful in measuring the utilization of assets with cost of services. The ratio can be expressed as:

Cost of services to Total Assets Ratio = $\dfrac{\text{Cost of services}}{\text{Total Assets}}$

e) Composition of Working Capital

To operate a business different kinds of assets are needed. For the day today business operation, different types of current asset are utilized. In case of NBBL and EBL, the main components of current assets are cash and bank balance loan and advance and government securities. Miscellaneous current assets are also a component of current assets prepaid expenses outstanding income like intent 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

⟩ Miscellaneous current assets percentage.

f) 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.

3.6.2 Statistical Tools

Various financial tools mentioned above were used to analyze the working capital management of NBBL and EBL. Similarly the relationships 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 the 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 terms. The formula is given below:

$$\bar{x} = \frac{\phi x}{N}, \text{ where}$$

$\bar{x}$ = Arithmetic average

ϕx = Sum of values of all terms and

N = Number of terms

b. Standard Deviation

The standard deviation is the measure that is most often use to describe variability in data distributions. IT can be thought of as a rough measure of the average amount by which observations deviate on either side of the mean. Denoted by Greek letter † (read as sigma) standard deviation is extremely useful for judging the representatives of the mean. Standard deviation is represented as:

$$\dagger = \sqrt{\frac{\phi d^2}{n\, Z1}}$$

† = standard deviation,

ϕd^2 = Sum of the squares of the deviations measured for the arithmetic average and

n = Number of items

c. Coefficient of Variation

The coefficient of variation of the ratio of standard deviation to the mean for a given sample used to measure spared. It can also be of as the measure of relative risk. The large the coefficient of variation, the greater the risk relative to the average. Mathematically,

$$CV = \frac{\dagger}{\bar{x}}, \text{ where}$$

CV = Coefficient of variation,

$\dagger$ = Standard deviation and

$\bar{x}$ = Arithmetic average

d. Coefficient of Correlations

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 confident of correlation, Karl Pearson's methods applied in the study. The coefficient of correlation is +1, there is perfect relationship between two variable and vice-versa. When r is), there is no relationship between two variables. The formula for the calculation of coefficient of correlation between X and Y is given below;

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

e) Test of Hypothesis

A Hypothesis is a conjectural statement of the relationship between two or more variables (Kerlinger: 1964). Hypothesis statement should be also to show the relationship between variables. At the same time, they should carry clear implication for testing the stated relation. The research on this thesis topic strongly holds that the hypothesis formulated, meet the above mentioned criteria. The hypothesis of this study is as follows.

T-statistic

To test the validity of assumption if sample size is less than 30 t-test is used. For applying t-test in the context of small, the t- value is calculated at first and compared with the table values off 't' at a certain level of significance for given degree of freedom. If calculated t-value exceeds the table value (say 0.05) we infer that he difference is not treated as significant. In this research work, t-value is cash and bank balance loan and advance government security current ratio and quick ratio.

1. Hypothesis

a. H_0: There is no significant difference inc composition of working capital between NBBL and EBL

H_1: There is significant difference in composition of working capital between NBBL and EBL

b. H_0: There is no significant difference in liquidity position between NBBL and EBL.

H_1: There is significant difference in liquidity position between NBBL and EBL.

c. H_0: There is no significant difference in profitability position between NBBL and EBL.

H_1: There is significant difference in profitability position between NBBL and EBL.

3.7 Limitations of the Methodology

Each methodology suffers from some kind of limitations. Therefore, the methodology used in this research cannot be different from the common limitations of same type of researches. However, in analyzing working capital management of the selected sample, the tools applied cannot best describe the relationship between the variables under study since working capital management tools are based on variable assumptions. Hence, the reliability, accuracy and validity of the research findings depend on this sample.

CHAPTER-IV
PRESENTATION AND DATA ANALYSIS

4.1 Introduction

To achieve objective set in this study data are presented and analyzed in this chapter on the whole, this chapter is related to quantity analysis of various ratio. Some quality oriented analysis has also been done in order to make the result realistic and complete to the possible extent. The major variable of the study are cash bank balance, loan and advances and investment of government securities relevant data and information of working capital as well as financial performance of NBBL and EBL are presented compared and analyzed accordingly. Analysis is performed using various financial and statistical tools. In financial tools it uses ratio analysis in which various related ratio have been compared and analyze such as liquidity ratios, turnover ratio, profitability ratio and composition of working capital. In statistical tools, it uses trend analysis.

4.2 Composition of Working Capital and Trend Analysis

To operate the business, different kind of assets are needed for day to-day business operation, different types of current assets are required. The main components of current assets at NBBL and EBL are cash and bank balance, loan and advances and investment on government securities. Miscellaneous current assets are also a component of current assets, prepaid expenses, outstanding income for example interest receivable and other current assets are included on miscellaneous current assets Table 4.1 and 4.2 shows the amount of cash and bank balance lone and advances government securities and miscellaneous current assets of NBBL and EBL respectively for the study period.

Table: 4.1

Current Assets Components of NBBL (Rs in million)

Fiscal Year	Cash & Bank Balance	Loan & Advance	Government Securities	Misc. Current Assets	Total Current Asset
063/64	1694.68	6460.25	2661.833	720.19	11536.953
064/65	1164.053	4409.01	1034.56	560.11	7167.733
065/66	1922.85	5457.808	1389.90	472.72	9243.278
066/67	2571.417	6704.94	2222.43	326.56	11825.347
067/68	1714.20	7527.72	2647.239	1547.01	13436.169

Source: Appendix- 1

Table: 4.2

Current Assets Components of EBL (Rs in million)

Fiscal Year	Cash & Bank Balance	Loan & Advance	Government Securities	Misc. Current Assets	Total Current Asset
063/64	1552.97	9801.31	3548.62	254.40	15155.3
064/65	2391.42	13664.08	4704.63	222.67	20982.8
065/66	2667.97	18339.09	4821.61	722.215	26550.88
066/67	6164.37	23884.67	5146.046	492.17	35687.25
067/68	7818.82	27556.35	4354.35	536.19	40265.71

Source: Appendix- 2

The tables 4.1 and 4.2 show that the total amount of current assets components of EBL is seen higher than NBBL. Due to unequal volume of the components, percentage of components of current assets is required for comparative analysis. The percentage composition of current assets to total current assets i.e. cash and bank balance, loan and advances, investment in government securities and miscellaneous current assets. In the fiscal year 067/68 the cash and bank balance is highest and lowest in the 063/64 of EBL and highest in 066/067 and lowest in 064/65 of NBBL. The total current asset is highest in the fiscal years 067/68 and lowest in the 063/64 of EBL.

Table: 4.3

Percentage Components of Current Assets of NBBL

Fiscal Year	Cash & Bank Balance	Loan & Advances	Government Securities	Misc. Current Assets	Total Current Assets
063/64	14.68	55.99	23.7	6.24	100.00
064/65	16.24	61.51	24.3	7.81	100.00
065/66	20.80	59.04	15.03	5.11	100.00
066/67	21.74	56.69	18.75	2.76	100.00
067/68	12.758	56.02	19.70	11.51	100.00
Average	17.24	57.85	18.204	6.686	100.00
	3.89	2.39	3.56	3.26	
C.V.	0.23	0.041	0.195	0.487	

Source: Appendix-5-8

Table: 4.4

Percentage Components of Current Assets of EBL

Fiscal Year	Cash & Bank Balance	Loan & Advances	Government Securities	Misc. Current Assets	Total Current Assets
063/64	10.25	64.67	23.42	2.67	100.00
064/65	11.39	65.12	22.42	1.06	100.00
065/66	10.05	69.07	18.16	2.72	100.00
066/67	17.27	66.93	14.41	1.37	100.00
067/68	19.42	68.44	10.81	1.33	100.00
Average	13.67	66.84	17.84	1.63	100.00
	4.36	1.94	5.32	0.645	
C.V.	0.32	0.029	0.289	0.396	

Source: Appendix-5-8

Graph: 4.1

Bar Diagram of Composition of NBBL's Current Assets
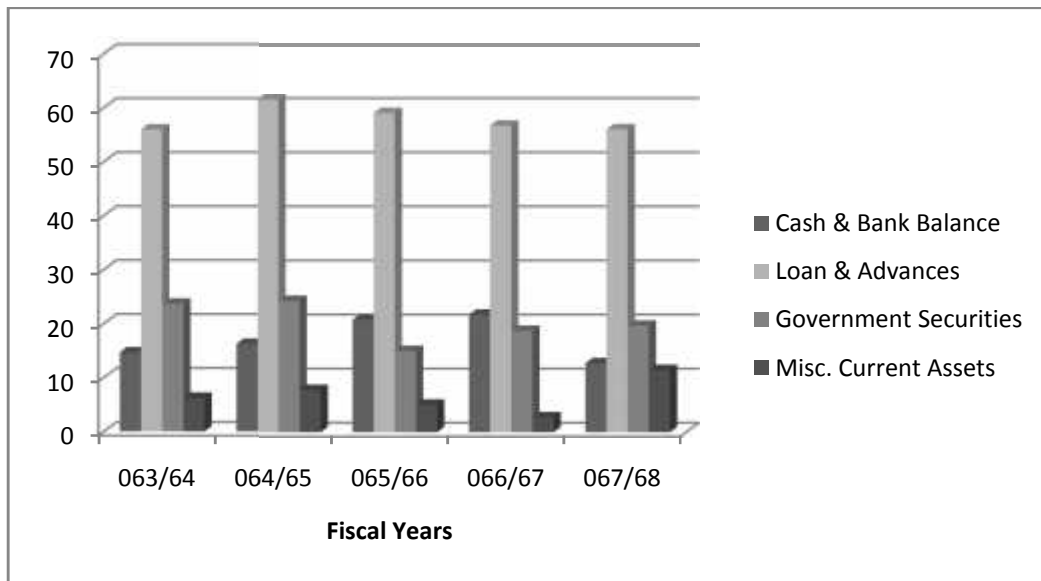
Graph: 4.2

Bar Diagram of Composition of EBL's Current Assets
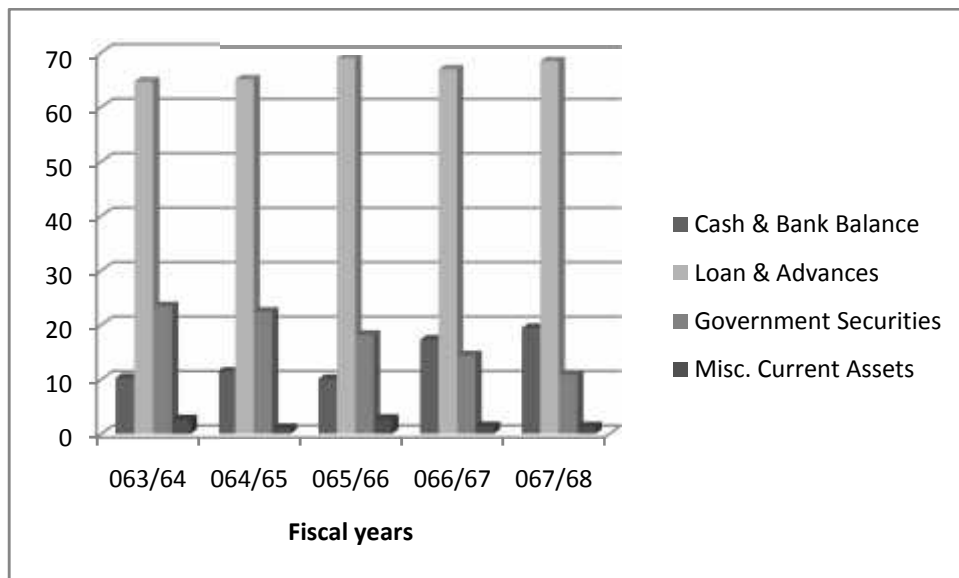
Cash and Bank Balance Percentage

Cash and bank balance percentage of NBBL the table 4.3 fluctuated over the study period. It is highest (12.758%) in the fourth year and Lowest (12.758%) in the fifth year of the study period. The average cash and bank balance percentage of NBBL is (17.24%).

The yearly cash and Bank balance percentage of EBL also fluctuated over the study period. It is highest (19.42%) in the fifth year and Lowest (10.05%) in the thired year of the study period. The average cash and Bank balance percentage of EBL is (13.676%). The study shown that average cash and bank balance percentage of NBBL (17.24%) is higher than that of EBL (13.676).

Similarly, the standard deviation is (3.89%) in NBBL whereas it is (4.36%) in EBL. Hence it shows EBL has higher risk factors then that of NBBL.

Likewise, coefficient of variation is 0.23 for NBBL and 0.32 for EBL, indicating more variation is 0.23 for NBBL and 0.32, indicating more variation in cash and Bank balance maintained in EBL compared to NBBL.

Loan and Advance Percentage

Loan and advances percentage of NBBL the table 4.3 fluctuated over the study. It is in year 2064/065 i.e. 61.51% and lowest in the year 2063/064 i.e. 55.99%.

The average loan and advances percentage of NBBL in 57.85% the yearly loan and advance percentage of EBL also fluctuated over the study period. It is highest (68.44%) in the fifth year and lowest (64.97%) in the first year of the study period. The average loan and Advance percentage of EBL is (66.846%). The study shown that average loan and advance percentage of EBL (66.846%) is higher then that of NBBL (57.85%).

The standard deviation is (2.39%) in NBBL whereas it is (1.94%) in EBL. Hence it shows NBBL has higher risk factor then that of EBL. Similarly coefficient of variation is 0.0413 in NBBL and 0.029 in EBL. Hence more variation in loan and advance is maintained in NBBL compared to EBL.

Government Securities Percentage

Government securities percentage of NBBL the table 4.3 fluctuated over the study period. It is highest (23.07%) in the first year and lowest (14.43%) in the second year of the study period.

The average government securities percentage of NBBL is (18.204%). The yearly government securities percentage of EBL also fluctuated over the study period. It is highest (23.42%) in the first year and lowest (10.81%) in the last year of the study period. The average government securities percentage of EBL is (17.84%). The study shown that average government securities percentage of NBBL (18.204%) is higher than that of EBL (17.84%).

The standard deviation is (3.56%) in NBBL whereas it is (5.32%) in EBL. Hence it shows EBL has higher risk factor than that of EBL. Similarly coefficient of variation is 0.195 NBBL and 0.298 in EBL. Hence more variation in government securities is maintained in NBBL compared to EBL.

Miscellaneous Current Assets Percentage

Miscellaneous current assets percentage of NBBL the table 4.3 is fluctuating all over the period of study. It is highest (11.51%) in the year 2067/068 and lowest (2.76%) in the year 2066/067. The average miscellaneous current assets percentage for NBBL is (6.686%).

The year miscellaneous current assets percentage of EBL also fluctuated over the study period. It is highest (2.72%) in the year 065/066 and lowest (1.06%) in the year 2063/2064. The average miscellaneous current assets percentage of NBBL (6.686%) is higher than that of EBL (1.6318%).

The standard deviation is (3.26%) in NBBL where as it is (0.645%) in EBL. Coefficient of variation is 0.487 in NBBL and 0.396 in EBL. Hence more variation in miscellaneous current assets is maintained in EBL compared to NBBL.

4.3 Net Working Capital

Net working capital is the different 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. All the

organization should have just adequate working capital to serve in competitive market. Excessive investment working capital is dangerous from the firm's point of view. Excessive investment working capital affects firm's profitability just as idle investment yields nothing. In the same way inadequate or negative working capital may be harmful to the organization. So networking 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: 4.5

Net Working Capital and NBBL (Rs. in million)

Fiscal Year	Current Assets	Current Liabilities	Net Working Capital	% change in NWC
063/64	11536.953	13271.86	-1734.907	-
064/65	7167.733	9878.7	-2710.97	56.26%
065/66	9243.278	11582.47	-2339.19	-13.71%
066/67	11825.347	10852.3	973.047	141.59%
067/68	13436.169	11931.11	1505.059	54.67%
Average			-861.39	
S.D			1957.87	
C.V.			-2.27	

Source: Appendix- 10

Table: 4.6

Net Working Capital and EBL (Rs. in million)

Fiscal Year	Current Assets	Current Liabilities	Net Working Capital	% change in NWC
063/64	15155.3	14696.46	458.87	-
064/65	20982.8	19931.04	1051.46	129.14
065/66	26550.88	24928.08	1622.8	54.34
066/67	35687.25	34297.37	1389.88	-14.35
067/68	40265.71	38325.89	1939.82	39.57
Average			1292.566	
S.D			568.03	
C.V.			0.44	

Source: Appendix- 10

Table 4.5 shows that the net working capital of NBBL is decreasing every year except for the in the second last and last year .It has increased by more than previous year. The average net working capital of NBBL ranges from Rs. 2339.19 million to Rs.1505.059 million.

In case of EBL, table 4.6 shows that the net working capital is fluctuation all the year. The average net working is fluctuation all the year. The average net working of EBL is 1292.566 million. The net working capital in range from Rs 458.87 million to Rs 1939.82 million.

Both the banks have negative working capital in the first year of study period which implies that there is insufficient amount required for operational requirement in that year.

4.4 Ratio Analysis

Ratio analysis is a powerful financial tool to measure the financial performance of banks comparatively. As mentioned in research methodology liquidity turnover and profitability ratio are calculated. As mathematical tools the method of least square is used to analyze performance.

4.4.1 Liquidity Ratio

To measure the banks solvency position or ability to meet its short term obligation various liquidity ratio are calculated and to know the trend of liquidity, trend analysis of major liquidity ratio have been considered.

4.4.1.1 Current Ratio

The current ratio has been calculated as shown:

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilites}$$

The following table shows the current ratio to compare the working capital management of NBBL and EBL.

Table: 4.7

Current Ratio

(Rs in million)

Fiscal Year	NBBL			EBL		
	Current Assets	Current Liabilities	Ratio	Current Assets	Current Liabilities	Ratio
063/64	11536.953	13271.86	0.87	15155.3	14696.46	1.03
064/65	7167.733	9878.7	0.73	20982.8	19931.04	1.05
065/66	9243.278	11582.47	0.79	26550.88	24928.08	1.065
066/67	11825.347	10852.3	1.08	35687.25	34297.37	1.04
067/68	13436.169	11931.11	1.13	40265.71	38325.89	1.05
Average			0.92			1.047
S.D.			0.176			0.013
C.V.			0.19			0.0124

Source: Appendix- 11

Table 4.7 depicts that the current assets and current liabilities of NBBL are fluctuating for all the times during the study period. Similarly in case of EBL too, the current assets and current liabilities are increasing for all the times. The current ratio of NBBL is decreasing in 2064/065 year and is increasing in the rest of the year. In EBL, the current ratio is gradually increasing for all the times except for the year 2066/067 in which it decreases throughout the year. The highest ratio of NBBL is 1.13 in year 2067/068 and lowest in 0.73 in year 064/065. In EBL, the highest current ratio is 1.065 in year 2064/2065 and lowest 1.03 in year 2063/064. The average current ratio of NBBL is 0.92. In EBL the average ratio is 1.047. The yearly ratios of EBL are always higher than that of NBBL. Therefore the average ratio of EBL is higher than the average ratio of NBBL. The standard deviation is 0.176 in NBBL whereas it is 0.013 in EBL. Similarly coefficients of variation are 0.19 in NBBL and 0.012 in EBL. Hence it shows there is more variation in current ratio maintained by NBBL compared to EBL.

The above analysis helps to conclude that both banks are unable to maintain the standard current ratio 2:1 hence they have poor. Liquidity position according to norms but they have sufficient current assets to discharge the current liabilities position of EBL is better than of NBBL. In other words, EBL has more ability to meet its current obligation then NBBL.

4.4.1.2 Quick Ratio

For the study, cash and bank balance and government securities are include in quick assets .It is calculated as below.

$$Quick\ Ratio = \frac{Quick\ or\ Liquid\ Assets}{Current\ Liabilities}$$

The following table shows the quick ratio of NBBL and EBL

Table: 4.8

Quick Ratio

(RS in million)

Fiscal Year	NBBL			EBL		
	Quick Assets	Current Liabilities	Ratio	Quick Assets	Current Liabilities	Ratio
063/64	4356.513	13271.86	0.33	5101.59	15155.3	0.35
064/65	2198.613	9878.7	0.22	7096.05	20982.8	0.36
065/66	3312.75	11582.47	0.29	7489.58	26550.88	0.30
066/67	4793.84	10852.3	0.44	11310.41	35687.25	0.33
067/68	4361.439	11931.11	0.37	12173.17	40265.71	0.32
Average			0.33			0.332
S.D.			0.083			0.024
C.V.			0.25			0.07228

Source: Appendix- 12

Table 4.8 depicts that the quick ratio of NBBL are increasing over the study period except for the year 2064/065 and 066/067. The ratio is highest 0.44 in

year 2066/067. The yearly quick ratios are lower than the average in the beginning of the years 064/065, 065/066.

In case of EBL too, the yearly quick ratio are fluctuating over the year of the study. It is highest (0.36) in the year 064/065 and lowest (0.30) in the year 2065/066. The average quick ratio of EBL is 0.332. In the 065/066, 066/067, 067/068 year of study, the yearly quick ratio are lower than the average ratio. However, the ratios are higher than the average ratio in the 063/064,064/065, years.

The yearly quick ratios of EBL are always higher that of NBBL. So the average quick ratio of EBL is higher than that of NBBL.

The standard deviation is 0.083 in NBBL whereas it is 0.024 in EBL. Similarly coefficient of variation are 0.25 in NBBL and 0.072 in EBL which shows that there is more variation in quick ratio of NBBL compared to EBL.

4.4.1.3 Cash and Bank Balance to Deposit Ratio

This ratio is calculated as below:

$$Balance\ to\ Deposit\ Ratio = \frac{Cash\ and\ Bank\ Balance}{Total\ Deposit}$$

The following table shows the cash and bank balance to deposit ratio of NBBL and EBL.

Table: 4.9

Cash and Bank Balance to Deposit Ratio

Fiscal Year	NBBL			EBL		
	Cash & Bank Balance	Deposit	Ratio	Cash & Bank Balance	Deposit	Ratio
063/64	1694.68	13015.13	0.13	1552.97	13802.44	0.11
064/65	1164.053	9385.95	0.12	2391.42	18186.25	0.13
065/66	1922.85	10883.65	0.18	2667.97	23976.29	0.11
066/67	2571.417	9997.69	0.25	6164.37	33322.95	0.18
067/68	1714.20	9785.19	0.18	7818.82	36932.31	0.21
Average			0.172			0.148
S.D.			0.0516			0.045
C.V.			0.30			0.304

Source: Appendix- 13

Table 4.9 depicts that the ratio of NBBL are fluctuating over the year of study period. The ratios are decreasing for all the year of study period expect fourth year. It is highest in the year 066/067 and lowest in the year 064/065. The average ratio of NBBL is 0.172.The ratio are lower then average only in the second and the first year and rest of the three year of study period has higher than average value.

In case of EBL the ratio are fluctuating as well. It is increasing in the fourth year and the year and is decreasing in the rest of the year of the study period. It is highest in 067/068 and lowest in 063/064 and 065/066. The average ratio of EBL is 0.148 only in the fourth and fifth year i.e. 066/067 and 067/068 the ratios are higher than the average ratio. The average ratio of   NBBL greater than EBL.

The standard deviation is 0.0516 in NBBL whereas it is 0.045 in EBL. Thus CV of NBBL is 0.3 whereas it is 0.304 in EBL has high risk or the variability of the ratio is lower in NBBL then EBL.

4.4.2 Activity or Turnover Ratio

This ratio is examine the efficiency with which the firm manages and utilizes it s assets. These ratio help in measuring the bank ability to utilize their available resources. The activity turnover ratios calculated are as follows:

4.4.2.1 Loan and Advance to Total Deposit Ratio

This ratio is calculated as below:

Loan and Advance to total Deposit Ratio = $\dfrac{\text{Loan and Advance}}{\text{Total Deposite}}$

The following table shows the effectiveness in utilization of total deposits of NBBL and EBL.

Table: 4.10

Loan and Advance to Total Deposits Ratio (in millions)

Fiscal Year	NBBL			EBL		
	Loan & Advance	Deposit	Ratio	Loan & Advance	Deposit	Ratio
063/64	6460.25	13015.13	0.49	9801.31	13802.44	0.71
064/65	4409.01	9385.95	0.47	13664.08	18186.25	0.75
065/66	5457.808	10883.65	0.50	18339.09	23976.29	0.76
066/67	6704.94	9997.69	0.67	23884.67	33322.95	0.72
067/68	7527.72	9785.19	0.76	27556.35	36932.31	0.75
Average			0.578			0.738
S.D.			0.13			0.0216
C.V.			0.22			0.029

Source: Appendix- 14

Table 4.12 depicts that loan and advance of NBBL are fluctuating every year except the last year of study period. However the loan and advance to total deposit ratio of NBBL are fluctuating every year. It is decreasing for the first, second and third years, for NBBL. The ratio is highest in year 067/068 i.e. 0.76 and lowest in year 064/065 i.e. 0.47. The average ratio of NBBL is 0.578 which is lower than its yearly ratio in 066/067 and 067/068 and higher than its yearly

ratio in 063/064and 064/065 and 065/066. For EBL as well the loan and advance are gradually increasing every year. The ratio of EBL is highest in year 065/066 i.e. 0.76 and lowest in year 063/064, i.e. 0.71. The average ratio of EBL is 0.738 which is higher than its yearly ratio in 063/064 and 066/067 but lower than it s yearly ratio in 064/065, 065/066, 067/068.

The yearly ratios of EBL are mostly higher than that of NBBL. The average loan and advance to total deposit ratio of EBL (0.738) is also higher than that of NBBL (0.578).

The standard deviation is 0.13 in NBBL whereas it is 0.0216 in EBL. Similarly, coefficients of variation are 0.22 in NBBL and 0.029 in EBL. Thus CV of EBL is lower than NBBL. EBL has low risk. The above analysis helps to conclude, that loan and advances to total deposit ratio or total deposit turnover ratio of EBL is better than NBBL. It is the indicated of better performance of EBL. Thus EBL is utilizing the funds more efficiently for the profit generating purpose on loan and advances then NBBL.

4.4.2.2 Profitability Ratio

Profitability ratio is the measurement of efficiency. It provides the degree of success in achieving desired profit. Here, profitability is measured in terms of various ratios as follows:

4.4.2.3 Interest Earned to Total Assets Ratio

This ratio can be calculated as follows:

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

The following table shows the interest earned to total assets ratio of NBBL and EBL:

Table: 4.11

Interest Earned to Total Assets Ratio

Fiscal Year	NBBL			EBL		
	Interest Earned	Total Assets	Ratio	Interest Earned	Total Assets	Ratio
063/64	240.037	11709.28	0.020	502.013	15959.28	0.031
064/65	549.977	7254.55	0.075	627.24	21432.57	0.029
065/66	430.28	9391.026	0.045	916.047	27149.34	0.034
066/67	927.33	11964.55	0.076	1193.94	36916.85	0.032
067/68	149.61	13575.65	0.011	1529.66	41382.76	0.037
Average			0.0454			0.0326
S.D.			0.030			0.00304
C.V.			0.66			0.093

Source: Appendix- 15

Table 4.13 shows that interest are fluctuating during the study period in NBBL. The interest earned to total assets ratio of NBBL seemed to be quite fluctuating. It is highest in the year 066/067 and lowest in the year 067/068. The average ratio of NBBL is 0.045 in EBI interest earned is always increasing but the ratio are fluctuating during the study period. The ratios are decreasing from the year 064/065. It is higher in year 067/068 and lowest in year 064/065. The average ratio of EBL is 0.0326. The yearly ratios of NBBL are always higher than EBL. So the average ratio of NBBL is higher than EBL. The Coefficient of variation are 0.66 in NBBL and 0.093 in EBL. Thus CV of NBBL is higher than EBL. This shows that there is more variation in interest earned to total assets ratio maintained by NBBL, compared to EBL. In other words EBL has lower risk in it.

4.4.2.4 Net Profit to Total Assets Ratio

This ratio can be calculated as:

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

The following table shows the net profit to total assets ratio of NBBl and EBL.

Table: 4.12

Net Profit /Loss to Total Assets Ratio

(Rs in million)

Fiscal Year	NBBL			EBL		
	Net Profit	Total Assets	Ratio	Net Profit	Total Assets	Ratio
063/64	(1796.15)	11709.28	(0.153)	237.29	15959.28	0.015
064/65	(1061.57)	7254.55	(0.146)	297.99	21432.57	0.014
065/66	(596.48)	9391.026	0.064	459.29	27149.34	0.016
066/67	(2158.10)	11964.55	0.18	638.73	36916.85	0.0173
067/68	218.208	13575.65	0.016	831.76	41382.76	0.02
Average			(0.0078)			0.016
S.D.			0.14			0.00238
C.V.			(17.95)			0.1487

Source: Appendix- 16

Table 4.14 depicts that the overall profitability ratio, NBBL is fluctuating for the years. Ratio is negative for year 063/064, and 064/065. The ratio is highest in 066/067 and lowest in (0.146%). The average ratio of NBBL is (0.0078%). The ratios of EBL are fluctuating for the overall year. The ratio is highest in year 067/068 and Lowest in 064/065. The average ratio is 1.6%. The yearly ratios of EBL are higher than NBBL.

The coefficients of variation are negative (17.95) in NBBL and 0.00238 in EBL. Thus CV of NBBL is lower than that of EBL. This is more variation in net profit to total assets ratio maintained by NBBL compared to EBL. In other words EBL has higher risk in it.

4.4.2.5 Net Profit to total Deposit Ratio

The ratio is calculated as:

$$Net \frac{profit}{Loss} to\ total\ Deposit\ Ratio = \frac{Net \frac{Profit}{Loss}}{Total\ Deposit}$$

The following table shows the net profit /Loss to total deposit ratio of NBBL and EBL.

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Table: 4.13

Net Profit /Loss to Total Deposit Ratio

(Rs. in million)

Fiscal Year	NBBL			EBL		
	Net Profit	Deposit	Ratio	Net Profit	Deposit	Ratio
063/64	(1796.15)	13015.13	(0.133)	237.29	13802.44	0.017
064/65	(1061.57)	9385.95	(0.113)	297.99	18186.25	0.016
065/66	596.487	10883.65	0.055	451.21	23976.29	0.018
066/67	2158.10	9997.69	0.22	638.73	33322.95	0.019
067/68	218.208	9785.19	0.022	831.76	36932.31	0.0225
Average			0.0092			0.0185
S.D.			0.1439			0.0129
C.V.			1564			0.697

Source: Appendix- 17

Table 4.15 depicts that the ratio for NBBL and EBL are fluctuating during entire period of study. In NBBL, the ratio negative for first two year and thesis fluctuating thereafter. The highest ratio of NBBL is 22% in year 066/067 and lowest is (0.138) in year 063/064. The average ratio of NBBL is 0.0092.

In EBL the yearly ratio fluctuating till the two year and then increased the rafter. It is highest in year 067/068 and lowest in year (0.138). The average ratio of EBL is 0.0185 during the study period. The average ratio of NBBL is lower than that of EBL.

The coefficients of variation are 15.64 in NBBL and 0.697 in EBL. Thus CV of NBBL is higher than that of EBL. This shows that there is more variation in net profit to total deposit ratio minted by NBBL compared to EBL. NBBL has high risk in it.

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The above analysis helps to conclude that the net profit to total deposit ratio of NBBL is better than EBL. Mobilization of external funds is important to earn profit for commercial bank. Thus EBL has better performance on mobilization of total deposits during that period.

4.4.2.6 Cost of services to Total Assets Ratio

The ratio is calculated as:

$$Cost\ of\ services\ to\ total\ Assets\ Ratio = \frac{Cost\ of\ Services}{Total\ Assets}$$

The following table shows the cost of services to total assets ratio of NBBL and EBL:

Table: 4.14

Cost of services to total Assets Ratio

(Rs in million)

Fiscal Year	NBBL			EBL		
	Cost of Services	Total Assets	Ratio	Cost of Services	Total Assets	Ratio
063/64	658.755	11709.28	0.058	472.31	15959.28	0.029
064/65	544.75	7254.55	0.075	603.24	21432.57	0.028
065/66	538.83	9391.026	0.057	790.56	27149.34	0.029
066/67	548.203	11964.55	0.046	1199.79	36916.85	0.032
067/68	508.26	13575.65	0.037	1799.15	41382.76	0.043
Average			0.0546			0.0322
S.D.			0.01428			0.0062
C.V.			0.26			0.193

Source: Appendix- 18

Table 4.18 depicts that the amount of cost of services of NBBL are fluctuating over the year of study period. The ratio of NBBL is highest in year 064/065 and lowest in 067/068. The average ratio of NBBL is 0.0546.

The EBL, the amount of cost of services is increasing but the ratio is decreasing for 064/065 year .The highest ratio of EBL is 0.043 in 067/068 and lowest in 0.028 in 064/065. The average ratio of EBL is 0.032 for that period. The yearly ratios of NBBL are higher than that of EBL. Hence the average ratio of NBBL (0.0546) is higher than that of EBL (0.0322).

The coefficients of variation are 0.26 in NBBL are 0.193 in EBL. Thus CV of EBL is higher than NBBL. This shows that there is more variation in cost of services to total assets ratio maintained by EBL compared to NBBL.

From the above analysis we conclude the cost of services on NBBL is higher than that of EBL during that period. Due to higher services cost profitability of NBBL is not satisfactory. In other words, EBL is performing better in terms of cost of services to total deposit ratio.

4.5 Correlation Analysis

Correlation is a statically tools that can be used to describe the degree to which one variable is linearly related to another. The coefficient of correlation measured the degree of relationship between to sets of figures. Among the various method of finding out coefficient of correlation Karl Pearson's method is applied in the study. The result of coefficient of correlation is +1 there is perfect relationship between two variables and vice-versa. When r is 0, there is no relationship between two variables and vice –versa. When r is 0, there is no relationship between two variables.

In order to test whether the correlation coefficient is significant of the correlation between is significant of the correlation between the two variables; t-test has been applied at the standard significant level of 5%. If calculated value of t is greater or equal to its tabulated value, it is significant. The value is not significant otherwise.

4.5.1 Coefficient of Correlation between Loan and Advances and Total Deposit

The coefficient of correlation between loan and advances and total deposit is to measure the degree of relationship between major components of current assets, that is loan and advance and whether there is any relationship between these two variables. To find out the correlation r various calculation are done.

The 4.19 shows the coefficient of correlation between loan and advance and total deposit, and test statistic value of NBBL and EBL during the study period.

Table: 4.15

Correlation Coefficient and Calculated and Tabulated t Values

Bank	r	Calculated t	Tabulated t	Result
NBBL	-0.43	-0.823	3.182	Not Significant
EBL	0.997	22.29	3.182	Significant

Source: Appendix- 19

The table 4.15 indicates that the coefficient correlation between loan and advance and total deposit of NBBL is -0.43 which indicates highly negative relationship between these two variables. By considering the test statistic since the calculated value of 3.182, there is a no significant between total deposit and loan and advances. In case of EBL, we observe coefficient of correlation between total deposit and loan and advance is 0.997 which shows the highly positive relationship between two variables. By considering the test statistics, since the calculated value of t is more than its tabulated value of 3.182, there is a no significant between total deposit and loan and advances.

In case of EBL, we observe coefficient of correlation between total deposit and loan and advance is 0.997 which shows the highly positive relationship between two variables. By considering the test statistics since, the calculated value of t is more than its tabulated value of 3.182 it can be concluded that the correlation between total deposit and loan and advance is highly significant in this case as well. From the above analysis, it can be concluded that there is no significant

relationship between loan and advance and total deposit in NBBL. It can be concluded that there is significant relationship between loan and advance and total deposit in EBL, Higher value r in EBL less then or negative relationship as well as utilization of deposit on loan and advance then NBBL.

4.5.2 Coefficient of Correlation between Investment on Government Securities and Total Deposit

The coefficient of correlation between investment on government security and total deposits is to measure the degree of relationship between two variables. Although bank utilizes its deposits on loan and advance, some part of idle deposits are invested on government securities. In correlation analysis, deposit is independent variable Y and a government security is dependent variable X. The purpose of computing coefficient of correlation in this case is to justify whether or not the excess deposits are significantly used in government securities whether there is any relationship between these two variables.

Table 4.15 Shows the Coefficient of Correlation between Government Securities and Total Deposit during the Study Period

Table: 4.16

Correlation Coefficients and Calculated and Tabulated t Values

Bank	r	Calculated t	Tabulated t	Result
NBBL	0.49	-1.77	3.182	Not Significant
EBL	0.54	1.11	3.182	Not Significant

Source: Appendix- 20

The table 4.16 point out that the coefficient correlation between government securities and total deposit of NBBL is 0.49 implying highly positive relationship between these two variables. By considering the test statistics, since the calculated value of t is less than its tabulated value of 3.182, it can be inferred that the value of r is not significant. On the other hand, it is observed that coefficient of correlation between total deposit and government securities in case of NBBL is 0.49 which indicating the highly positive relationship between

the two variable. By considering the test statistics, since the calculated value of t is more than its tabulated value of 3.182, it can be further conclude that the correlation between total deposit and investment of government securities is highly significant.

From the above analysis, it is clear that there is no significance relationship between investment on government securities and total deposit in EBL and NBBL.

4.5.3 Coefficient of Correlation between Cash and Bank Balance and Current Liabilities

Cash and Bank balance are most liquid components of current assets. They are required to meet the unexpended short term obligation or current liabilities. The coefficient of correlation between cash and Bank balance and current liabilities is to measure the degree of relationship between cash and bank balance and current liabilities.

To find out the correlation, various calculations are performed. Table 4.21 shows the coefficient of correlation between cash cash and Bank balance and current liabilities and calculated and tabulated value of t of NBBL and EBL during the study period.

Table: 4.17

Correlation Coefficients and Calculated and Tabulated t Values

Bank	r	Calculated t	Tabulated t	Result
NBBL	0.32	0.52	3.182	Not Significant
EBL	1.0035	20.76	3.182	Significant

From the table 4.17, it can be inferred that the coefficient of correlation between cash and Bank Balance and current liabilities in NBBL is 0.32 which shows positive relationship between these two variables. By considering the test statistics, since the calculated value of t is less that its tabulated value of 3.182,

we can say that the value of r is not significant. In other words there is no significant relationship between cash and bank balance, and current liabilities.

In case of EBL it can be seen that co-efficient of correlation between cash and Bank balance and current liabilities is high. The value of r in case is 1.0035 which shows highly positive relationship between two variables. By considering the test statistics since the calculated value of t is greater than its tabulated value of 3.182, we can further conclude that the relationship between cash and bank balance and current liabilities is significant.

From the above analysis it can be concluded that there is no significant relationship between cash and Bank balance and current liabilities in EBBL and EBL. There is significant relationship between cash and Bank balance and current liabilities in EBB.

4.5.4 Coefficient of Correlation between Loan and Advance and Net Profit

The basic function of a commercial bank is t collect deposit and invests these funds on loan and advance to generated higher profit. Large amount of loan and advance generated higher profit. The coefficient of correlation between loan and advance and net profit measures the degree of relationship between loan and advance, and net profit in correlation analysis, loan and advance is independent variable. Y and net profit is dependent variable X. The purpose of computing coefficient of correlation is to justification generate profit and whether there is any relationship between these two variables.

Table 4.22 shows the coefficient of correlation between loan and advance and net profit and calculated and tabulated t value of NBBL and EBL during the study period.

Table: 4.18

Correlation Coefficient and Calculated and Tabulated value

Bank	r	Calculated t	Tabulated t	Result
NBBL	0.32	0.58	3.182	Not Significant
EBL	0.98	8.56	3.182	Significant

4.6 Test of Hypotheses

As stated in chapter three in research methodology, some conceptual framework of null and alternative hypothesis between NBBL and EBL in various variables are formulated and tested as follows:

For the study, following set of null hypothesis have been formulated and tested.

a. H0: there is no significant difference in composition of working capital between NBBL and EBL.

H1: There is a significant difference in composition of working capital between NBBL and EBL.

b. H0: there is no significant difference in liquidity position between NBBL and EBL.

H1: there is significant difference in liquidity position between NBBL and EBL.

c. H0: there is no significant difference in profitability position between NBBL and EBL.

H1: there is significant difference in profitability position between NBBL and EBL.

To test the validity of our assumption, if sample size is less than 30, t-test is used. In order to apply t-test in the context of small sample, the t-value is calculated first and compared with the table value of t at a certain level of significance (say on 5%) for given degree of freedom. If calculated value oft exceeds the table value, we infer that the null hypothesis is rejected, that is, the difference is significant at 5% level of significance.

4.7 Profitability Position

To judge whether there is significant difference in profitability position between NBBL and EBL, following null hypothesis and alternative hypothesis are formulated and tested.

a. Null Hypothesis

HO: there is no significant difference in profitability position between NBBL and EBL.

b. Alternative Hypothesis

H1: There is significant difference in profitability position between NBBL and EBL. The following table exhibits the mean value of various percentages measuring the profitability position of NBBL and EBL and student t value.

Table: 4.19

T-value of Profitability Position

S.N.	composition	NBBL Mean	EBL Mean	calculated t value	Tabulated t value	Result/Decision
1	Interest Earned to Total Assets	0.0454	0.0326	1.06	2.306	H0 is accepted
2	Net profit to total Assets	0.0078	0.016	-0.3808	2.306	H0 is accepted
3	Net profit loss total Deposits	0.0092	0.0185	0.11	2.306	H0 is accepted

From the table 4.19, it is clear that there is no significant difference in Interest earned to total assets, net profit loss to total deposits NBBL and EBL and null hypothesis is accepted these two banks.

4.8 Composition of Working Capital

To judge whether there is significant difference in composition of working capital between NBBL and EBL, following null hypothesis and alternative hypothesis are formulated and tested.

a. Null Hypothesis

H0: There is no significant difference in composition of working capital between NBBL and EBL.

b. Alternative Hypothesis

H1: There is significant difference in composition of working capital between NBBL and EBL.The following table exhibits the mean value of various percentages measuring the composition or structure of working capital of NBBL and student t value.

Table: 4.20

Mean t-value of composition of working capital

S.N.	composition	NBBL Mean	EBL Mean	calculated t value	Tabulated t value	Result/Decision
1	Cash & Bank balance	17.24	13.67	1.25	2.306	H0 is accepted
2	Loan and advance	57.85	66.84	-6.5	2.306	H0 is accepted
3	Govt. Securities	18.204	17.84	0.80	2.306	H0 is accepted
4	Misc. current Assets	6.68	1.63	3.325	2.306	H0 is rejected.

From the table 4.20, it is clear that is no significant difference between cash and bank, balance, loan and advances, government securities percentage of NBBL and EBL because the calculated value of t is less than its tabulated value, and therefore, the null

hypothesis is accepted. Therefore is however significant difference in misc. current. Assets of these two banks.

4.9 Liquidity Position

To judge whether there is significant difference in liquidity position between NBBL and EBL, following null hypothesis are formulated and tested.

a. Null Hypothesis

H0: There is no significant difference in liquidity position NBBL and EBL.

b. Alternative Hypothesis

H1: There is significant difference in liquidity position NBBL and EBL.

The following table exhibits the mean value of various percentages measuring the liquidity position of NBBL and student t value.

Table: 4.21

Mean t-value of composition of working capital

S.N.	Composition	NBBL Mean	EBL Mean	calculated t value	Tabulated t value	Result/Decision
1	current ratio	0.92	1.047	1.589	2.306	H0 is accepted
2	Quick ratio	0.33	0.332	-0.00519	2.306	H0 is accepted
3	Cash & bank balance to deposit ratio (Excl. fixed deposit)	0.172	0.148	-1.552	2.306	H0 is accepted

From the table 4.21, it is clear that current ratio and quick ratio and cash and bank balance to deposit ratio quick ratio NBBL and EBL because the calculated value of t is less than its tabulated value of these two banks.

From the table, it is found that the coefficient correlation between loan and advances and net profit of NBBL is 0.32 which shows positive relationship between these two variables. By considering the test statistic, since the calculated value of t is less then its tabulated value of 3.182, we can say that the value of r is not significant. In other words, there is no signification. In other words, there is no significant relationship between loan and advances and net profit.

In case of EBL, it is observed that coefficient of correlation between loan and advances and not profit to be 0.98 which shows highly positive relationship between these two variables. By considering the test statistics, since the calculated value of t is more than its tabulated value of t of 3.182, we can further conclude that the relationship between loan and advances and net profit is highly significant.

From the above analysis it can be concluded that in case of NBBL there is no significance relationship between loan and advances and net profit but there a significant relationship in exists EBL.

4.10 Major Finding

The major findings of this study of NBBL and EBL during the five year period are summarized below.

1. The net working capital of NBBL is negative in the year 063/064. 064/065 and 065/066 of study period. Which shows in sufficient amount of working capital for operational requirement in that year? Incase EBL, the net working capital is positive in the study period. The average net working capital of NBBL is negative amount of Rs 61.39 million and that of EBL is Rs 1292.566 million.

2. The net working capital of NBBL range from -2710.97 million to Rs 1505.059 million whereas in EBL, it range from Rs 458.87 million to Rs 1939.82 million. The C.V. of NBBL is -2.27 and that EBL is 0.44 which shows that there is very high variability of net working capital maintained by NBBL compared to EBL.

3. The liquidity position of banks is analyzed with the current ratio, quick ratio and cash bank balance to deposit ratio. The current ratio of NBBL and EBL range from 0.73 to 1.13 and 1.03 to 1.065 respectively. Measuring the risk factor it shows that there is more variation in current ratio of NBBL and EBL are 0.92 and 1.047 respectively. EBL is better than NBBL in the study period .The trend liquidity ratio or current ratio ,quick ratio and cash and bank balance to deposit ratio of NBBL and EBL are increasing .Although higher liquidity means lowest risk as well as lower profit in general ,it does not necessarily mean lower profit in case of commercial bank.

4. The turnover position of NBL have decreasing for the second year and increasing for 2063/064,065/066, 066/067, 067/068 year. Incase of EBL, they are increasing except for fourth year of study period. The average value of loan and advance to total deposit ratio id 0.578 on NBBL and 0.738 on EBL. From the analysis of turnover of these two banks, it is found that although EBL has slightly higher risk then EBL, it has better investment efficiency on loan and advance.

5. The profitability position of NBBL and EBL are analyzed from angles. The average value of interest earned to total assets ratio of NBBL is 4.54% which is higher then EBL is 3.26%.This implies that NBBL is more efficiently using its total asset (funds) to earn interest income. The trend value of interest earned to total assets ratio on both bank are fluctuating. Although the net profit to total deposit ratio always higher on EBL than to NBBL .For first second year negative or loss of study period in NBBL. The trend value of net profit to total assets ratio of NBBL is fiscal year 2062/066 and 064/065 is negative but in 065/066, 066/067, 067/068 year is ratio of fluctuation.

6. Incase of EBL fluctuation of the study period. This shows that EBL is more efficiently then NBBL.

7. Cost of services to total assets ratio of NBBL is also always higher than of EBL .Cost of services to total assets ratio of both bank fluctuation trend which range from 7.5%to 3.7% in NBBL and 4.3%to 2.8% in EBL .So it is found that although profitability position of NBBL is better than EBL.

8. While analyzing the correlation coefficient loan and advances and total deposit of both the banks NBBL is not significant and EBL is significantly correlated. The value of r of NBBL is -0.43 and incase of EBL it is 0.997. The positive value of r shows the positive relationship between loan and advance and total deposit .The negative value of r shows the negative relationship between loan and advances and total deposit .It is relationship shows as well as utilized of deposit are better in EBL then in NBBL.

9. Correlation between investment on government security and total deposit of EBL is highly significant .It shows that there is close a relationship between investment on government securities and total deposit of EBL. However it is not significant incase of NBBL.

10. There is significant relationship between cash and bank balance and current liabilities in NBBL. In EBL cash and bank balance and current liabilities is significant. The value of r is 0.32 on NBBL and 1.0035 on EBL. It shows that holding of cash and bank balance of NBL is not related with current liabilities, and cash and bank balance of EBL is related with current liabilities. Coefficient of correlation between loan and advance and net profit of NBBL. In case of EBL there is significant relationship between loan and advance and net profit related since coefficient value r is 0.98.

11. While testing the hypothesis of composition of working capital, it has been observed that the mean value of proportion of cash and bank balance, loan and advance and government securities of NBBL and EBL are not statistically different.

12. While testing the hypothesis of liquidity management it has been observed that the mean value of current ratio quick ratio and cash and bank balance to deposit ratio of NBBL and EBL are not significantly different. It shows that liquidity management policy of these two banks is significantly different.

13. While testing the hypothesis of profitability position, it is observed that the mean value of net profit to total assets, net profit to total deposit and interest on to total assets of NBBL are not statistically different from that of EBL.

It shows that change on loan and advance on NBBL does not change the amount of profit significantly. It may be due to the use of higher amount of costly funds and other higher costs.

CHAPTER-V
SUMMARY, CONCLUSION AND
RECOMMENDATIONS

This chapter is dedicated to provide conclusion after comparatively analyzing the working capital management of two joint venture banks. Nepal Bangladesh bank limited and Everest Bank limited, respectively.

5.1 Summary

Establishment of commercial banks, especially joint venture banks has continued in response to the economic liberalization policies of the government. As a result in Nepal there are commercial banks at present competing with each other in their in their business. These joint venture banks have concentrated themselves on financing foreign trade, commerce and industry.

As mentioned earlier, this study concentrates on the comparative analysis of working capital position of re-mentioned banks NBBL and EBL. From the perspective of the researcher, these two banks are chosen for study mainly because of accessibility and availability of financial data for lasts five year period.

To fulfill the objective an appropriate research methodology has been developed which includes ratio analysis as financial tools and trend analysis correlation coefficient. The major ratio analysis consists of the composition of working capital position, liquidity position turnover position and profitability position. Under these main ratio and their trend position are studied in the chapter four in order to test the relationship between the various compounds of working capital, Karl Pearson correlation coefficient r is calculated and analyzed.

The necessary data are derived from the balance sheet and profit and loss account of NBBL and EBL for period of five years from fiscal year 2063/064 to

2067/068 B.S. In this chapter an attempt has been made to present conclusion and some suggestions and recommendations.

5.2 Conclusions

In conclusion it can be said that working capital management is one of the most important parts of every financial institution. Working capital is a crucial capital, which is often compared to life blood of the human being. After analyzing the two sample banks, NBBL and EBL comparatively using various financial and statistical tools various important conclusions have been derived from the study.

The average cash and bank balance and government securities percentage are higher on Nepal Bangladesh bank than on Everest bank and average loan and advances percentage is higher in NBBL than in EBL The net working capital of NBBL is negative in the study and Everest banks is positive in the study comparatively. NBBL has less net working capital than EBL. Both the banks are unable to maintain adequate liquidity position to meet the short terms or even instant obligations. The current ratio of both NBL and EBL are below the normal standard ratio of 2:1. However, the liquidity position of EBL is slightly better than that of NBBL. Although higher liquidity means lower risk as well as lower profit, but in commercial bank higher liquidity is not always the cause of lower profitability.

Under profitability position, profitability in terms of interest earned to total assets ratio of NBBL is higher that of EBL. So NBBL is more efficiently using its total assets to earned interest income. The net profit to total assets and the net profit to deposit ratio are also higher in NBBL then in EBL. Hence it is concluded that the average profitability ratio of NBBL is higher than of EBL. But for past few years, there is a decrease in profitability of NBBL which may be due to the lack of proper management, strong marketing, strategic development, strong HRM and information and technology etc.

5.2   Recommendations:

On the basis of the above study, following recommendations have been made which might be useful for concerned banks.

1. The loans and advance percentage as a part of current assets of EBL was in the increasing trend. So, it should review, its policy are to reverse the trend, as they are the most productive assets. On the other hand, the average loans and advances percentage as a part of current assets of NBBL was just more than EBL. So, it should increase the percentage by adopting new policies.

2. The standard liquidity ratio should be 2:1, but the low liquidity ratio of both the banks suggests that they should enhance their liquidity position by keeping optimum current assets.

3. Both the banks had low average turnover on total deposits which is less than one. Due to low turnover non earning idle funds might be high on these banks. So, these banks should give proper attention on the utilization of idle funds in more productive sectors.

4. By adopting the matching working capital management policy instead of adopting conservative policy these banks can improve their profitability in the short as well as in the long run.

5. Low return on assets of EBL Suggests that it should cut down its operating cost in order to maximize its profitability.

6. Both the banks need to utilize the outsiders' as well as insiders' fund effectively and efficiently in order to keep all the stakeholders happy.

7. As the services of these banks have been limited to urban and semi urban regions of the nation, they should initiate some measures to widen their reach to the people of rural areas.

8. These banks should also focus on research and development activities in order to retain and keep their position up, as more and more players are entering into the limited market of banking industry of Nepal.

9. In my observation, both bank could not reached the rural areas because of peace so, the researcher strongly recommend that both the banks should be established in rural areas.

Appendix - 1

Nepal Bangladesh Bank Limited

Five Years Balance Sheet (NBBL) (in million)

Particulars	063/064	064/065	065/066	066/067	067/068
Assets:					
Current Assets					
Cash & Bank Balance	1694.68	1164.053	1922.85	2571.471	1714.20
Loan & Advance	6460.25	4409.01	5457.808	6704.94	7527.72
Government securities	2661.833	1034.56	1389.90	2222.43	2647.239
Misc. current assets	720.19	560.11	472.72	326.56	1547.01
Total Current Assets	11536.953	7167.733	9243.278	11825.347	13436.169
Fixed Assets	172.325	140.807	147.74	139.198	139.479
Total Assets	11709.278	7308.54	9391.018	11964.545	13575.648
Current Liabilities:					
Deposit	13015.136	9385.95	10883.65	9997.69	9785.19
Short Term Loan	71	230	30	-	-
B/P	44.10	39.41	30.01	12.63	-
Tax provision	-	30.33	-	6.73	33.30
Staff Bonus	-	-	-	-	-
Purpose dividend	1.35	1.29	1.30	1.39	-
Miscellanies C.L.	140.27	191.720	637.509	833.86	2112.62
Total current liabilities	13271.86	9878.7	11582.47	10852.3	11931.11
Long term liabilities	-	-	-	-	-
Net worth	(1562.58)	(2570.16)	(2191.45)	1112.245	1644.538
Total liabilities equity capital	11709.278	7308.54	9391.018	11964.545	13575.648

Appendix - 2

Everest Bank Limited

Five Years Balance Sheet (NBBL)

(in million)

Particulars	063/064	064/065	065/066	066/067	067/068
Assets:					
Current Assets					
Cash & Bank Balance	1552.97	2391.42	2667.97	6164.37	7818.82
Loan & Advance	9801.31	13664.08	18339.09	23884.67	27556.35
Government securities	3548.62	4704.63	4821.65	5146.046	4354.35
Misc. current assets	252.40	222.67	222.67	492.17	536.19
Total Current Assets	15155.3	20982.8	26550.8	35687.25	40256.71
Fixed Assets	152.089	21152.89	360.512	427.15	463.094
Total Assets	15307.389	21152.89	26911.392	36114.4	40728.804
Current Liabilities:					
Deposit	13802.44	18186.25	23976.29	33322.95	36932.310
Short Term Loan	-	-	-	-	404.6
B/P	15.80	26.78	49.43	148.66	145.515
Tax provision	-	15.28	41.14	20.52	1.136
Staff Bonus	34.56	45.47	65.86	89.12	118.79
Purpose dividend	114.67	68.15	140.79	114.67	276.25
Miscellanies C.L.	728.99	1589.133	654.57	289.44	447.28
Total current liabilities	14696.46	19931.04	24928.08	34297.37	38325.89
Long term liabilities	300	300	300	300	300
Net worth	310.929	921.85	1683.312	1517.03	2102.914
Total capital & liabilities	15307.389	21152.89	26911.392	36114.4	40728.804

Appendix - 3

Everest Bank Limited

Five Years Profit and Loss (NBBL)

(in million)

Particulars	063/064	064/065	065/066	066/067	067/068
Gross interest income	240.037	549.97	430.279	927.36	149.612
Commission and discount	852.98	85.219	105.300	122.39	23.74
other operating income	47.845	117.65	190.76	125.074	12.09
exchange income	63.95	40.96	90.11	80.54	12.75
Total Operating Income	437.139	793.812	816.45	1255.35	198.200
Gross profit:	(1716.811)	(877.381)	838.179	2624.105	276.66
staff bonus	-	-	76.198	238.55	25.15
Provision tax	80.347	184.198	165.494	227.446	33.30
current year	71.29	184.198	156.593	235.262	-
tax an saving	-	-	(3.091)	3.041	-
previous year	9.057	-	11.991	(10.857)	-
Net-profit/Loss	(1797.159)	(1069.579)	596.487	2158.104	218.208

Everest Bank Limited

Five years Profit and Loss

(in million)

Particulars	063/064	064/065	065/066	066/067	067/068
Gross interest income	502.013	627.242	916.047	1173.94	1529.66
Commission and discount	96.83	117.718	150.264	202.094	208.123
other operating income	48.902	67.967	79.133	106.403	142.31
exchange income	14.39	28.404	64.45	62.526	47.87
Total Operating Income	662.153	841.33	1209.89	1544.96	1927.97
Gross profit:	380.160	500.179	724.55	980.45	1306.79
staff bonus	(34.56	(45.47)	65.86	89.13	118.799
Provision tax	-	-	-	-	-
current year	(106.75)	158.299	216.91	276.86	357.020
tax an saving	-	-	(9.4)	(24.278)	-
previous year	(1.55)	-	207.46	-	(0.794)
Net-profit/Loss	237.29	297.99	451.218	638.73	831.765

Appendix - 5

Let X_1 and X_2 denote the ratio of NBBL and EBL responsible cash and Bank Balance to C.A.

Year	X_1	X_2	$d_1^2=(X_1 - \overline{X_1})$	$d_2^2=(X_1 - \overline{X_2})$
063/064	14.68	10.25	6.55	11.69
064/065	16.24	11.39	1	5.19
065/066	20.80	10.05	12.67	13.10
066/067	21.74	17.27	20.25	12.96
067/068	12.76	19.42	20.07	33.06
			$\sum d_1^2 = 60.54$	$\sum d_2^2 = 76$

$\overline{X_1}$ = 17.24 $\overline{X_2}$ = 13.67

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{60.54}{5-1}}$$

$$= 3.89$$

$$C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{76}{5-1}}$$

$$= 4.36$$

$$CV_1 = \frac{C_1}{\overline{X_1}}$$

$$= \frac{3.89}{17.24}$$

$$= 0.23$$

$$CV_2 = \frac{C_2}{X_2}$$

$$= \frac{4.36}{13.67}$$

$$= 0.32$$

Calculation of Loan and Advance to Current Assets (%)

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	55.99	64.67	3.46	4.7
064/065	61.54	65.12	13.39	2.96
065/066	59.04	69.07	1.42	4.97
066/067	56.69	66.93	1.35	0.0081
067/068	56.02	68.44	3.35	2.65
			$\sum d_1{}^2 = 22.97$	$\sum d_2{}^2 = 15.198$

$\overline{X_1}$ = 57.85

$C_1 = \sqrt{\dfrac{\sum d^2}{n-1}}$

$= \sqrt{\dfrac{22.97}{5-1}}$

= 2.39

$CV_1 = \dfrac{C_1}{\overline{X_1}}$

$= \dfrac{2.39}{57.85}$

= 0.0413

$\overline{X_2}$ = 66.84

$C_2 = \sqrt{\dfrac{\sum d^2}{n-1}}$

$= \sqrt{\dfrac{15.198}{5-1}}$

= 1.94

$CV_2 = \dfrac{C_2}{X_2}$

$= \dfrac{1.94}{66.84}$

= 0.029

Calculation of Government semi ties to Current Assets Ratio (%)

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	23.07	23.42	23.68	31.14
064/065	14.43	22.42	14.24	20.98
065/066	15.03	18.16	10.07	0.1024
066/067	18.79	14.41	0.343	11.76
067/068	19.70	10.81	2.24	49.42
			$\sum d_1{}^2 =50.573$	$\sum d_2{}^2 =113.40$

$\overline{X_1}$ = 18.204

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{50.573}{5-1}}$$

= 3.56

$$CV_1 = \frac{C_1}{\overline{X_1}}$$

$$= \frac{3.56}{18.204}$$

= 0.195

$\overline{X_2}$ = 17.84

$$C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{113.40}{5-1}}$$

= 5.32

$$CV_2 = \frac{C_2}{X_2}$$

$$= \frac{5.32}{17.84}$$

= 0. 298

Appendix -8

Calculation of Miscellaneous Current Assets to Current Assets Ratio (%)

Year	X_1	X_2	$d_1^2 = (X_1 - \overline{X_1})$	$d_2^2 = (X_1 - \overline{X_2})$
063/064	6.24	1.67	0.1989	0.0016
064/065	7.81	1.06	1.263	0.3249
065/066	5.11	2.72	2.484	1.188
066/067	2.76	1.379	15.41	0.063
067/068	11.51	1.33	23.27	0.063
			$\sum d_1{}^2 = 42.625$	$\sum d_2{}^2 = 1.6675$

$$\overline{X_1} = 6.686 \qquad\qquad \overline{X_2} = 1.63$$

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}} \qquad\qquad C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{42.625}{5-1}} \qquad\qquad = \sqrt{\frac{1.6675}{5-1}}$$

$$= 3.26 \qquad\qquad\qquad = 0.645$$

$$CV_1 = \frac{C_1}{\overline{X_1}} \qquad\qquad CV_2 = \frac{C_2}{X_2}$$

$$= \frac{3.26}{6.686} \qquad\qquad\qquad = \frac{0.645}{1.63}$$

$$= 0.487 \qquad\qquad\qquad = 0.396$$

Appendix - 9

Calculation of Current liability of EBL

Current Liabilities	063/064	064/065	065/066	066/067	067/068
Deposit	13802.44	18186.25	23976.29	33322.95	36932.310
Short term loan	-	-	-	312	404.6
B/P	15.80	26.78	49.43	148.66	145.515
Tax provision	-	15.28	41.14	20.52	1.136
Staff. Bown	34.56	45.47	65.86	89.13	118.799
Purpose Divide	114.67	68.15	140.79	114.67	276.25
Miscellaneous	728.99	1589.133	654.57	289.44	447.28
Total Current L.	14696.46	19931.04	24928.08	34297.37	38325.89
Long term L.	300	300	300	300	300
Net worth	962.808	1201.51	1921.24	2203.63	2759.14
Total capital & Liabilities	15959.268	21432.55	27149.32	36801	41385.03

Appendix - 10

Calculation of Net Working Capital

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	-1734.907	458.87	763031.95	695472.6025
064/065	-2710.97	1051.46	3420946.18	58254.649
065/066	-2339.19	1622.8	2183892.84	108886.80
066/067	973.047	1389.88	3365159.107	9420.6436
067/068	1505.059	1939.82	5600080.87	418609
			$\sum d_1{}^2 = 15333110.95$	$\sum d_2{}^2 = 1290643.695$

$\overline{X_1}$ = -861.39 $\overline{X_2}$ = 1292.82

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}}$$ $$C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{15333110.95}{5-1}}$$ $$= \sqrt{\frac{1290643.65}{5-1}}$$

$= 1957.87$ $= 568.03$

$$CV_1 = \frac{C_1}{\overline{X_1}}$$ $$CV_2 = \frac{C_2}{X_2}$$

$$= \frac{1957.87}{-861.39}$$ $$= \frac{568.03}{1292.82}$$

$= -2.27$ $= 0.44$

Appendix - 11

Calculation of Current Ratio

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	0.87	1.03	0.0025	0.000289
064/065	0.73	1.05	0.0361	0.00009
065/066	0.79	1.065	0.0169	0.000324
066/067	1.08	1.04	0.0256	0.000049
067/068	1.13	1.05	0.0441	0.000009
			$\sum d_1{}^2=0.1252$	$\sum d_2{}^2=0.00068$

$$\overline{X_1} = 0.92 \qquad\qquad \overline{X_2} = 1.047$$

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}} \qquad\qquad C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.1252}{5-1}} \qquad\qquad = \sqrt{\frac{0.00068}{5-1}}$$

$$= 0.176 \qquad\qquad = 0.013$$

$$CV_1 = \frac{C_1}{\overline{X_1}} \qquad\qquad CV_2 = \frac{C_2}{X_2}$$

$$= \frac{0.176}{0.92} \qquad\qquad = \frac{0.013}{1.047}$$

$$= 0.19 \qquad\qquad = 0.0124$$

Appendix – 12

Calculation of Quick Ratio

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	0.33	0.35	0	0.000324
064/065	0.22	0.36	0.0121	0.000784
065/066	0.29	0.30	0.0016	0.001024
066/067	0.44	0.33	0.0121	0.000004
067/068	0.37	0.32	0.0016	0.000144
			$\sum d_1{}^2=0.0274$	$\sum d_2{}^2=0.00228$

$\overline{X_1}$ = 0.33

$\overline{X_2}$ = 0.332

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.0274}{5-1}}$$

= 0.083

$$C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.00228}{5-1}}$$

= 0.024

$$CV_1 = \frac{C_1}{\overline{X_1}}$$

$$= \frac{0.083}{0.33}$$

= 0.25

$$CV_2 = \frac{C_2}{X_2}$$

$$= \frac{0.024}{0.332}$$

= 0.07228

81

Appendix – 13

Calculation of Cash and Bank Balance to Deposit Ratio

Year	X_1	X_2	$d_1{}^2 = (X_1 - \overline{X_1})$	$d_2{}^2 = (X_1 - \overline{X_2})$
063/064	0.13	0.11	0.001764	0.001444
064/065	0.12	0.13	0.002704	0.000324
065/066	0.18	0.11	0.000064	0.001444
066/067	0.25	018	0.006084	0.001024
067/068	0.18	0.21	0.000064	0.003844
			$\sum d_1{}^2 = 0.01068$	$\sum d_2{}^2 = 0.00808$

$\overline{X_1} = 0.172$

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.01068}{5-1}}$$

$$= 0.0516$$

$$CV_1 = \frac{C_1}{\overline{X_1}}$$

$$= \frac{0.0516}{0.172}$$

$$= 0.3$$

$\overline{X_2} = 0.148$

$$C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.00808}{5-1}}$$

$$= 0.045$$

$$CV_2 = \frac{C_2}{X_2}$$

$$= \frac{0.045}{0.148}$$

$$= 0.304$$

Appendix – 14

Calculation of Loan and Advance to Total Deposits Ratio

Year	X_1	X_2	$d_1^2=(X_1 - \overline{X_1})$	$d_2^2=(X_1 - \overline{X_2})$
063/064	0.49	0.71	0.007744	0.000784
064/065	0.47	0.75	0.011664	0.000144
065/066	0.50	0.76	0.00608	0.000484
066/067	0.67	0.72	0.008464	0.000324
067/068	0.76	0.75	0.33124	0.000144
			$\sum d_1{}^2 = 0.067076$	$\sum d_2{}^2 = 0.00188$

$$\overline{X_1} = 0.578 \qquad\qquad \overline{X_2} = 0.738$$

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}} \qquad\qquad C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.067076}{5-1}} \qquad\qquad = \sqrt{\frac{0.00188}{5-1}}$$

$$= 0.13 \qquad\qquad\qquad = 0.0216$$

$$CV_1 = \frac{C_1}{\overline{X_1}} \qquad\qquad CV_2 = \frac{C_2}{X_2}$$

$$= \frac{0.13}{0.578} \qquad\qquad = \frac{0.0216}{0.738}$$

$$= 0.22 \qquad\qquad\qquad = 0.029$$

Appendix – 15

Calculation of Interest Earned to Total Assets Ratio

Year	X_1	X_2	$d_1^2=(X_1-\overline{X_1})$	$d_2^2=(X_1-\overline{X_2})$
063/064	0.020	0.031	0.000645	0.00000256
064/065	0.075	0.029	0.000876	0.00001296
065/066	0.045	0.034	0.00000016	0.00000196
066/067	0.076	0.032	0.000936	0.00000036
067/068	0.011	0.037	0.00118336	0.00001936
			$\sum d_1{}^2=0.00364052$	$\sum d_2{}^2=0.0000372$

$\overline{X_1} = 0.0454$

$C_1 = \sqrt{\dfrac{\sum d^2}{n-1}}$

$\quad = \sqrt{\dfrac{0.000364052}{5-1}}$

$\quad = 0.030$

$CV_1 = \dfrac{C_1}{\overline{X_1}}$

$\quad = \dfrac{0.030}{0.0454}$

$\quad = 0.66$

$\overline{X_2} = 0.0326$

$C_2 = \sqrt{\dfrac{\sum d^2}{n-1}}$

$\quad = \sqrt{\dfrac{0.0000372}{5-1}}$

$\quad = 0.00304$

$CV_2 = \dfrac{C_2}{X_2}$

$\quad = \dfrac{0.00304}{0.0326}$

$\quad = 0.09325$

Calculation of Net Profit/Loss to Total Assets Ratio

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	(0.153)	0.015	0.0258	0.000001
064/065	(0.146)	0.014	0.0236	0.000004
065/066	0.064	0.016	0.0032	0
066/067	0.18	0.0173	0.0296	0.00000169
067/068	0.016	0.02	0.000067	0.000016
			$\sum d_1{}^2 = 0.082267$	$\sum d_2{}^2 = 0.00002269$

$$\overline{X_1} = (0.0078) \qquad\qquad \overline{X_2} = 0.016$$

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}} \qquad\qquad C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.082267}{5-1}} \qquad\qquad = \sqrt{\frac{0.00002269}{5-1}}$$

$$= 0.14 \qquad\qquad = 0.00238$$

$$CV_1 = \frac{C_1}{\overline{X_1}} \qquad\qquad CV_2 = \frac{C_2}{X_2}$$

$$= \frac{0.14}{(0.0078)} \qquad\qquad = \frac{0.00238}{0.016}$$

$$= (17.95) \qquad\qquad = 0.1487$$

Calculation of Net profit loss to Total Deposit Ratio

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	(0.138)	0.017	0.0217	0.00000225
064/065	(0.113)	0.016	0.0149	0.00000625
065/066	0.055	0.018	0.00209	0.00000025
066/067	0.22	0.019	0.044	0.00065025
067/068	0.022	0.0225	0.00016	0.000016
			$\sum d_1{}^2 = 0.08285$	$\sum d_2{}^2 = 0.000675$

$\overline{X_1}$ = 0.0092 $\overline{X_2}$ = 0.0185

$C_1 = \sqrt{\dfrac{\sum d^2}{n-1}}$ $C_2 = \sqrt{\dfrac{\sum d^2}{n-1}}$

$\quad = \sqrt{\dfrac{0.08285}{5-1}}$ $\quad = \sqrt{\dfrac{0.000675}{5-1}}$

$\quad = 0.1439$ $\quad = 0.0129$

$CV_1 = \dfrac{C_1}{\overline{X_1}}$ $CV_2 = \dfrac{C_2}{X_2}$

$\quad = \dfrac{0.1439}{0.0092}$ $\quad = \dfrac{0.0129}{0.0185}$

$\quad = 15.64$ $\quad = 0.697$

Calculation of Cost of Service to Total Assets Ratio

Year	X_1	X_2	$d_1{}^2=(X_1 - \overline{X_1})$	$d_2{}^2=(X_1 - \overline{X_2})$
063/064	0.058	0.029	0.00001156	0.00001024
064/065	0.075	0.028	0.00416	0.0000176
065/066	0.057	0.029	0.00000576	0.00001024
066/067	0.046	0.032	0.0000739	0.00000004
067/068	0.037	0.043	0.000309	0.0001167
			$\sum d_1{}^2=0.00081622$	$\sum d_2{}^2=0.00015482$

$$\overline{X_1} = 0.0546 \qquad\qquad \overline{X_2} = 0.0322$$

$$C_1 = \sqrt{\frac{\sum d^2}{n-1}} \qquad\qquad C_2 = \sqrt{\frac{\sum d^2}{n-1}}$$

$$= \sqrt{\frac{0.00081622}{5-1}} \qquad\qquad = \sqrt{\frac{0.00015482}{5-1}}$$

$$= 0.01428 \qquad\qquad = 0.00622$$

$$CV_1 = \frac{C_1}{\overline{X_1}} \qquad\qquad CV_2 = \frac{C_2}{X_2}$$

$$= \frac{0.01428}{0.0546} \qquad\qquad = \frac{0.00622}{0.0322}$$

$$= 0.26 \qquad\qquad = 0.193$$

Appendix - 19

Calculation of Correlation Coefficient between Loan and Advance and Total Deposit of NBBL

LA(X)	TD(Y)	$X=X-\bar{X}$	X^2	$Y=Y-\bar{Y}$	Y^2	XY
6460.25	13015.136	348.3	121312.89	2401.64	5767874.69	83649121
4409.01	9385.95	-1702.94	2900004.6	1227.55	1506879.003	-2090443.99
5457.808	10883.65	-654.14	427899.14	270.15	72981.022	-176715.92
6704.94	9997.69	592.99	351637.14	-615.81	379221.95	-365169.17
7527.72	9785.19	1415.77	2004404.6	-828.31	686097.45	-1172696.45
30559.728	53067.61		5805258.37		8413054.115	-2968534.32

$$\bar{X} = \frac{\sum X}{N} = \frac{30559.728}{5} = 6111.95$$

$$\bar{Y} = \frac{\sum X}{N} = \frac{53067.61}{5} = 10613.5$$

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

$$= \frac{-2968534.32}{\sqrt{5805258.37 \times 8413054.115}}$$

$$= \frac{-2968534.32}{\sqrt{6988558.708}}$$

$$= -0.43$$

Test-statistic t $= \dfrac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$

$$= \frac{-0.43}{\sqrt{1-(0.43)^2}} \times \sqrt{5-2}$$

$$= \frac{-0.43}{0.9028} \times 1.73$$

$$= -0.823$$

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Calculation of correlation coefficient between loan and Advances and Total Deposit of EBL

LA(X)	TD(Y)	$X=X-\overline{X}$	X^2	$Y=Y-\overline{Y}$	Y^2	XY
9801.31	13802.44	-8847.79	78283387.88	-11441.608	130910393.6	101232944.8
13664.08	18186.25	-4985.02	24850424.4	-7057.798	49812512.61	35183264.19
18339.09	23976.29	-310.01	96106.200	-1267.75	1607190.063	393015.18
23884.67	33322.95	5235.59	27411193.22	8078.902	65268657.53	42297656.94
27556.35	36932.310	8907.25	79339102.56	11688.262	136615468.6	104110271.7
93245.5	126220.24		209980214.3		384214222.4	283217152.8

$$\overline{X} = \frac{\Sigma X}{N} = \frac{93245.5}{5} = 18649.1$$

$$\overline{Y} = \frac{\Sigma X}{N} = \frac{126220.24}{5} = 25244.048$$

Correlation r $= \dfrac{\Sigma XY}{\sqrt{\Sigma X^2 \ \Sigma Y^2}}$

$$= \frac{283217152.8}{\sqrt{209980214.3 \times 384214222.4}}$$

$$= \frac{-2968534.32}{284037646.7}$$

$$= 0.997$$

Test-statistic t $= \dfrac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$

$$= \frac{0.997}{\sqrt{1-(0.997)^2}} \times \sqrt{5-2}$$

$$= \frac{0.997}{0.7745} \times 1.732$$

$$= 22.29$$

Calculation of t-value

Cash and Bank percentage on Total current Assets

NBBL			EBL		
CP (x)	(x=X- $\overline{X}$)	(x=X- $\overline{X}$)^2	CP(Y)	(x=Y- $\overline{Y}$)	(x=Y- $\overline{Y}$)^2
14.68	-2.56	6.55	10.25	-3.42	11.69
16.24	3.56	1	11.39	-2.28	5.198
20.80	3.56	12.67	10.05	-3.62	13.10
21.74	4.5	20.25	17.27	3.6	12.96
12.75	-4.49	20.16	19.42	5.75	33.06
86.21		60.63	68.38		76.008

$$\overline{X} = \frac{x}{N} = \frac{86.21}{5} = 17.24, \quad \overline{Y} = \frac{y}{N} - \frac{68.38}{5} = 13.67$$

$$S^2 = \frac{\int x \, Z \overline{x} Å \, \Gamma \, \int y \, Z \overline{y} Å}{N_1 \, \Gamma \, N_2 \, Z2} = \frac{162.218}{8} = 20.277$$

$$\text{Test Statistic, } t = \frac{\overline{x} \, Z \, \overline{y}}{\sqrt{s^2 \, \dfrac{1}{N_2} \, \Gamma \dfrac{1}{N}}} = \frac{3.57}{\sqrt{20.277 \, \dfrac{1}{5} \, \Gamma \dfrac{1}{5}}}$$

/t/ = 1.25

Appendix - 22

Calculation of t value

Loan and advances Percentage on total current Assets

NBBL			EBL		
LA(x)	$(x=X-\overline{X}|)$	$(x=X-\overline{X}|)^2$	LA(Y)	$(y=Y-\overline{Y}|)$	$(y=Y-\overline{Y})^2$
55.99	-1.86	3.45	64.47	-2.17	4.708
61.51	3.66	13.39	62.12	-1.72	2.95
59.04	1.19	1.41	69.07	2.23	4.97
56.69	-1.16	1.34	66.93	0.09	0.0081
56.02	-1.83	3.34	68.44	1.6	2.56
289.25		22.93	334.23		15.196

$$\overline{X} = \frac{x}{N} = \frac{289.25}{5} = 57.85, \quad \overline{Y} = \frac{y}{N} - \frac{334.23}{5} = 66.84$$

$$S^2 = \frac{\int x \, Z\overline{x}\text{Å} \, \Gamma \, \int y \, Z\overline{y}\text{Å}}{N_1 \, \Gamma \, N_2 \, Z2} = \frac{38.126}{8} = 4.765$$

$$\text{Test Statistic, } t = \frac{\overline{x} \, Z \, \overline{y}}{\sqrt{s^2 \, \frac{1}{N_1} \, \Gamma \, \frac{1}{N_2}}} = \frac{Z8.99}{\sqrt{4.765x0.4}} = \frac{Z8.99}{1.3805} = -6.512$$

$/t/ = -6.512$

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Calculation of t value

Government Securities Percentage on total current Assets

NBBL			EBL		
GS(x)	$(x=X-\overline{X}\,|)$	$(x=X-\overline{X}\,|)^2$	GS(Y)	$(y=Y-\overline{Y}\,|)$	$(y=Y-\overline{Y})^2$
23.007	2.85	8.12	23.42	5.58	31.136
24.3	4.14	17.13	22.42	4.58	20.976
15.03	-5.12	26.2	18.16	0.316	0.099
18.75	-1.406	1.97	14.41	-3.43	11.76
19.70	-0.456	0.207	10.81	-7.03	49.42
100.78		53.627	89.22		113.391

$$\overline{X} = \frac{x}{N} = \frac{100.78}{5} = 20.156, \quad \overline{Y} = \frac{y}{N} - \frac{89.22}{5} = 17.844$$

$$S^2 = \frac{\int x \, Z \overline{x} \, Å \, \Gamma \quad \int y \, Z \overline{y} \, Å}{N_1 \, \Gamma \, N_2 \, Z2} = \frac{167.018}{8} = 20.877$$

$$\text{Test Statistic, } t = \frac{\overline{x} \, Z \, \overline{y}}{\sqrt{s^2 \, \dfrac{1}{N_1} \, \Gamma \, \dfrac{1}{N_2}}} = \frac{2.312}{2.889}$$

$/t/ = 0.80$

Calculation of t value

Miscellaneous Current Assets Percentage on total current Assets

NBBL			EBL		
MCA(x)	$(x=X-\overline{X}\,\vert)$	$(x=X-\overline{X}\,\vert)^2$	MCA(Y)	$(y=Y-\overline{Y}\,\vert)$	$(y=Y-\overline{Y})^2$
6.24	-0.44	0.1936	2.67	0.84	0.7056
7.81	1.13	1.27	1.06	-0.77	0.5929
5.11	-1.57	26.11	2.72	0.89	0.7921
2.76	-3.92	7.61	1.37	-0.46	0.2116
11.51	4.83	4.83	1.33	-0.5	0.25
33.43		40.0	9.15		2.5522

$$\overline{X} = \frac{x}{N} = \frac{33.43}{5} = 6.68, \quad \overline{Y} = \frac{y}{N} = \frac{9.15}{5} = 1.83$$

$$S^2 = \frac{\int x \, Z\overline{x}Å \Gamma \int y \, Z\overline{y}Å}{N_1 \, \Gamma N_2 \, Z2} = \frac{42.55}{8} = 5.3190$$

$$\text{Test Statistic, } t = \frac{\overline{x} \, Z \, \overline{y}}{\sqrt{s^2 \, \frac{1}{N_1} \, \Gamma \, \frac{1}{N_2}}} = \frac{4.85}{\sqrt{5.3190 \, \frac{1}{5} \, \Gamma \, \frac{1}{5}}}$$

/t/ = 3.325

Calculation of t value Current Ratio

NBBL			EBL		
CR(x)	$(x=X-\overline{X})$	$(x=X-\overline{X})^2$	CR(Y)	$(y=Y-\overline{Y})$	$(y=Y-\overline{Y})^2$
0.87	-0.05	0.0025	1.03	-0.016	0.00025
0.73	-0.19	0.0361	1.05	0.004	0.000016
0.79	-0.13	0.0169	1.065	0.019	0.000361
1.08	0.16	0.028	1.04	-0.006	0.000036
1.13	0.21	0.044	1.05	0.004	0.000016
4.6		0.125	5.235		0.000679

$$\overline{X} = \frac{x}{N} = \frac{4.6}{5} = 0.99, \quad \overline{Y} = \frac{y}{N} = \frac{5.23}{5} = 1.04$$

$$S^2 = \frac{\int x \, Z\overline{x} \, Å \, \Gamma \, \int y \, Z\overline{y} \, Å}{N_1 \, \Gamma \, N_2 \, Z2} = \frac{0.1257}{8} = 0.0157$$

Test Statistic, $t = \dfrac{\overline{x} \, Z \, \overline{y}}{\sqrt{s^2 \, \dfrac{1}{N_1} \, \Gamma \, \dfrac{1}{N_2}}} = \dfrac{Z0.126}{\sqrt{0.0157 \, \dfrac{1}{5} \, \Gamma \, \dfrac{1}{5}}}$

/t/ = 1.589

Appendix - 26

Calculation of t value Quick Ratio

NBBL			EBL		
QR(x)	(x=X-$\overline{X}$|)	(x=X-$\overline{X}$|)^2	QR(Y)	(y=Y-$\overline{Y}$|)	(y=Y-$\overline{Y}$)^2
0.33	0	-	0.35	0.02	0.0004
0.22	-0.11	0.0121	0.36	0.03	0.0009
0.24	-0.04	0.0016	0.30	-0.03	0.0009
0.44	0.11	0.0121	0.33	0	0
0.37	0.04	0.0016	0.32	-0.01	0.0001
1.65		0.027	1.66		0.0023

$$\overline{X} = \frac{x}{N} = \frac{1.65}{5} = 0.33, \quad \overline{Y} = \frac{y}{N} = \frac{1.66}{5} = 0.332$$

$$S^2 = \frac{\int x \, Z \overline{x} Å \, \Gamma \, \int y \, Z \overline{y} Å}{N_1 \, \Gamma \, N_2 \, Z2} = \frac{0.0297}{8} = 0.0037$$

$$\text{Test Statistic, t} = \frac{\overline{x} \, Z \, \overline{y}}{\sqrt{s^2 \, \frac{1}{N_1} \, \Gamma \, \frac{1}{N_2}}} = \frac{Z0.002}{\sqrt{0.0037 \, \frac{1}{5} \, \Gamma \, \frac{1}{5}}}$$

/t/ = -0.00519

Calculation of t value

Cash & Bank balance to Deposits Ratio (CBDR, Excluding Fixed Deposit)

NBBL			EBL		
QR(x)	(x=X-$\overline{X}$ |)	(x=X-$\overline{X}$ |)^2	QR(Y)	(y=Y-$\overline{Y}$ |)	(y=Y-$\overline{Y}$)^2
0.13	-0.04	0.0016	0.11	-0.18	0.0324
0.12	-0.05	0.0025	0.13	-0.16	0.0256
0.18	0.01	0.11	0.11	-0.18	0.0324
0.25	0.08	0.0064	0.18	-0.11	0.0129
0.18	0.01	0.0001	0.21	-0.08	0.0064
0.86		0.0107	1.48		0.1089

$$\overline{X} = \frac{x}{N} = \frac{0.86}{5} = 0.17, \quad \overline{Y} = \frac{y}{N} = \frac{1.68}{5} = 0.29$$

$$S^2 = \frac{\oint x \, \mathbf{Z} \overline{x} \text{Å} \, \Gamma \, \oint y \, \mathbf{Z} \overline{y} \text{Å}}{N_1 \, \Gamma \, N_2 \, \mathbf{Z} 2} = \frac{0.1196}{8} = 0.01495$$

Test Statistic, t= $\dfrac{\overline{x} \, \mathbf{Z} \, \overline{y}}{\sqrt{s^2 \, \dfrac{1}{N_1} \, \Gamma \, \dfrac{1}{N_2}}}$ = $\dfrac{\mathbf{Z} 0.12}{\sqrt{0.01495 \, \dfrac{1}{5} \, \Gamma \, \dfrac{1}{5}}}$

/t/ = 1.552

Calculation of t value

Interest Earned to Total Assets Ratio (IETAR)

NBBL			EBL		
IETAR (x)	$(x=X-\overline{X})$	$(x=X-\overline{X})^2$	IETAR (Y)	$(y=Y-\overline{Y})$	$(y=Y-\overline{Y})^2$
0.020	-0.025	0.0006	0.031	-0.0016	0.00000256
0.075	0.029	0.0084	0.029	-0.0036	0.00001296
0.045	0	0	0.034	0.0014	0.00000196
0.076	0.030	0.0009	0.032	-0.0006	0.00000036
0.011	-0.03	0.0009	0.037	0.0044	0.00001936
0.227	0.0032	0.163			0.0000372

$$\overline{X} = \frac{x}{N} = \frac{0.227}{5} = 0.0454, \quad \overline{Y} = \frac{y}{N} = \frac{0.163}{5} = 0.0326$$

$$S^2 = \frac{\int x \, Z \overline{x}\text{Å} \, \Gamma \int y \, Z \overline{y}\text{Å}}{N_1 \, \Gamma \, N_2 \, Z2} = \frac{0.003237}{8} = 0.0004046$$

$$\text{Test Statistic, } t = \frac{\overline{x} \, Z \, \overline{y}}{\sqrt{s^2 \, \frac{1}{N_1} \, \Gamma \, \frac{1}{N_2}}} = \frac{0.0128}{0.01272}$$

/t/ = 1.006

Appendix - 29

Calculation of t value

Net Profit/Loss Total Assets Ratio (NPTAR)

NBBL			EBL		
NPTAR(x)	$(x=X-\overline{X}\vert)$	$(x=X-\overline{X}\vert)^2$	NPTAR(Y)	$(y=Y-\overline{Y}\vert)$	$(y=Y-\overline{Y})^2$
0.153	-0.1608	0.025	0.015	-0.001	0.000001
0.146	-0.1538	0.0236	0.014	-0.002	0.000004
0.064	0.0562	0.0031	0.016	0	0
0.18	0.1722	0.0296	0.0173	0.0013	0.0000016
0.016	0.0082	0.00067	0.02	0.004	0.000016
0.039		0.08136	0.0823		0.0000226

$$\overline{X} = \frac{x}{N} = \frac{0.039}{5} = 0.0078, \quad \overline{Y} = \frac{y}{N} = \frac{0.0893}{5} = 0.01646$$

$$S^2 = \frac{\oint x\, Z\overline{x}Å\, \Gamma\, \oint y\, Z\overline{y}Å}{N_1\, \Gamma\, N_2\, Z2} = \frac{0.0813}{8} = 0.01016$$

$$\text{Test Statistic, } t = \frac{\overline{x}\, Z\, \overline{y}}{\sqrt{s^2\, \frac{1}{N_1}\, \Gamma\, \frac{1}{N_2}}} = \frac{Z0.02426}{0.0637}$$

$/t/ = -0.3808$

Calculation of t value

Net Profit/Loss Total Deposit Ratio (NPTAR)

NBBL			EBL		
NPTDR(x)	$(x=X-\overline{X}\vert)$	$(x=X-\overline{X}\vert)^2$	NPTDR(Y)	$(y=Y-\overline{Y}\vert)$	$(y=Y-\overline{Y})^2$
0.133	-0.1432	0.020	0.017	-0.001	0.000001
0.113	-0.1232	0.015	0.016	-0.002	0.000004
0.055	0.0448	0.002	0.018	0.074	0.00547
0.22	0.2098	0.044	0.019	0.114	0.0129
0.022	0.0118	0.0001	0.0225	-0.0045	0.000020
0.051		0.0811		0.0925	0.01839

$$\overline{X} = \frac{x}{N} = \frac{0.051}{5} = 0.0102, \quad \overline{Y} = \frac{y}{N} = \frac{0.0925}{5} = 0.018$$

$$S^2 = \frac{\int x Z \overline{x} Å Γ \int y Z \overline{y} Å}{N_1 Γ N_2 Z2} = \frac{0.09949}{8} = 0.0124$$

$$\text{Test Statistic, } t = \frac{\overline{x} Z \overline{y}}{\sqrt{s^2 \frac{1}{N_1} Γ \frac{1}{N_2}}} = \frac{0.0083}{0.070427}$$

$/t/ = 0.11$

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