CHAPTER- I
INTRODUCTION

1.1   Background of the Study

The investment opportunities and demand for capital are two moving wheels of economic development for which the mobilization of saving for investment is must to have a positive impact on the raising of living standard of people. The speedily development of the world in modern era depends to a large extent, on the level of financial activities. Finance can be defined as the art and science of managing money. Virtually all individual and organization earn or raise money and spend or invest money. Finance is concerned with the process, institutions, markets, and instruments involved in the transfer of money among and between individuals, business and governments or it can be defined as the management of the flows of money through an organization whether or it be a corporation, schools bank or government agency. Finance concerns itself with the actual flows of money as well as any claims against money.

Investment companies are the outcome of strengthening the power of the small investors through institutional mechanism. It is because they help small investor to invest their collected saving in productive earning to get satisfactory return. At the same time, by collecting the funds from small investor, the investment companies have own expertise and adequate study to select best investment portfolio and devising various investment schemes to benefit small investors. As such in our country also, economic liberalization policy has encouraged the growth of mutual fund as one of the important component of capital market development. At the same time, government policy is also targeted on participation of ownership of shares by small investor. For this, a provision has been

made that at least 15 to 20 percent of the shares should be provide to small investor. However, the institutions to pool the funds of small investors have not been developed as yet in Nepal. There is only few institutions have taken institution to encourage mutual fund in Nepal.

The regulation regarding mutual fund is still in the process of enactment. Given this background, the concept of mutual funds is to be understood in border concept. A large number of investors have small amount to invest and they lack professional competency to invest; it is uneconomical for them to invest in portfolio of securities in which they cannot take risk diversifying advantage of the portfolio. Similarly, they cannot choose profitable investment alternative as they are unable to analyze investment alternatives professionally. These difficulties of small investors gave rise to pool of funds collected from small investors and invested in different types of securities. When an investor participates in a mutual fund, he becomes one of the owners of such funds held under that arrangement. Each investors of the mutual fund has a claim to the portfolio established by the investment company in proportion to the amount investment investors benefit from mutual fund as it is professional managed and the investment companies benefited as the earn management fee for managing the fund. Mutual funds are financial intermediates that pool the financial resources of investors and invest these resources in a diversified portfolio of securities.

We are heavily dependent on foreign aid and now slowly entrapped into foreign debt, and a huge percentage of budgets are allocated for interest and debt servicing. Mobilization of internal resources is only the means for development of economic growth of the country and mutual funds can contribute significantly in the formation and mobilization of capital for development efforts. In Nepal, the ratio of saving to gross

national income is quite low and the gap between saving and investment is high so there is strong need of mobilization saving for investment in productive activities. Financial/investment companies or financial intermediates are the companies that collect small saving through unit schemes. The security market consists of primary market and secondary market, the primary market refers to market of new issues of securities i.e. stocks and bonds, where as secondary market refers to the market where the existing or pre-developed securities are traded. In Nepal, citizen investment trust and NIDC Capital market Ltd. are those financial intermediary companies that work for the development of unit trust/mutual funds. Citizen investment trust collects small saving through citizen unit scheme and NIDC Capital market Ltd. collects it through NCM mutual fund and invests the saving in shares and securities. The role of these financial intermediary companies is very important for the economic development of the nation. They mobilize of funds, they collects small saving and invest as capital. Capital investment is very important for establishment of industries and other companies.

Most people of Nepal are innocent about share market, which company shares to be purchased how much money should be invested in different company's shares for higher return. They do not have idea but it is necessary to bring even small investors to the main stream of participating in the capital market and it is possible through collective investment scheme. But people want higher return and its consistency. So, comparative evaluations among mutual funds are essential.

1.2   Focus of the Study

Main focus of the study is to evaluate the performance of mutual funds as well as to find out the problem also. And to examine which

collective investment scheme is more consistent in its performance the study has also focused on to identify the challenge of collective investment scheme to do better portfolio performance and find out its solution. The purpose of this study is to find out basic reasons as to why Nepal's investors are shying away from mutual fund and why the mutual fund has not been successful as compared to other developed country.

1.3   Statement of the Problem

As mentioned in the background of the study most people do not have the expertise and time to manage a portfolio, they need such collective investment schemes. In our country, two such investment schemes are presently operating.

I.   Citizen unit scheme and

II.   NCM mutual fund. Then which mutual fund has performed the best, how the mutual funds trend is going weather their performance is consistent   or not etc. question has arisen.

In other side, the study presents how to survive in the present ruin market. What investment strategies will we applied. How to provide return consistently to the unit holders etc. Thus the study deals with the following research question.

1.   What are the major problems faced by mutual funds companies in Nepal?

2.   Which of the collective investment schemes generated higher return?

3.   Why the investors are not interested to invest in mutual funds companies in Nepal?

4.   What will be solution or ways to improve portfolio performance of mutual funds in Nepal?

5.   Whether collective investment schemes are consistence in their performance or not?

6.   What is the current scenario of mutual fund in Nepalese market?

1.4   Objectives of the Study

The prime objectives of the study are to figure out as to which of the two funds via, NCM or CUS do better portfolio performance for the period studied and to examine their consistency in their performance. The specific objectives of the study are listed as follows:

1.   To examine the financial performance of mutual fund during the period studied.

2.   To examine the consistency in performance of mutual fund companies.

3.   To make recommendations to overcome the obstacles in NCM and CUS to improve portfolio performance.

4.   To analyze the problems faced by mutual funds in Nepal.

1.5   Significance of the Study

This present research deals with the problems, prospectus of mutual fund in Nepal. The study based on portfolio performance of the collective investment scheme. Citizen unit scheme and NCM mutual fund. This study is significant in the following way:

1.   It shows which investment company is better then another one in terms of return and its consistency. It is also useful for public investor.

2.   It tries to explore the problems of mutual funds and provides solutions or way to overcome the challenge to do better portfolio

performance. It provides encouragement and insight to handle the problems to mutual fund managers.

3.   It is also benefited to the security board of Nepal, because the study tries to provide some recommendation to it as a government body on behalf of executives. Financial teachers, investors, stockbrokers and students who have knowledge about mutual fund. And lastly, it provide information to investor and literature to the researcher.

1.6   Limitations of the Study

The concept of mutual funds is new in Nepal in compare to other developed and developing countries. This study is not broad, it is the mini research conducted only for clear knowledge about the financial performance of the mutual fund companies in Nepal. The study mainly has focused on any two mutual fund companies in Nepal. There are many factors that affect the financial performance of the company. Since, it is not possible to cover all factors. The study is limited to the variable which can be exposed in quantitative terms by fitting them into financial and statistical tools of analysis. Only few financial tools and techniques have been taken for analysis.

- The study is principally based on secondary data. So, the calculation and conclusion of the study are fully dependent on the accuracy of the data provided by the organization. However, primary data is also used according to the need.

- This study has been undertaken as partial fulfillment of the requirement for the degree of master of business studies. So it's analysis tools and research are based on academic course.

- The study is limited to the necessity importance, situation and comparative analysis of mutual funds in Nepal. Nevertheless

efforts have been undertaken to present the latest data for the availability as far as possible.

1.7   Organization of the Study

The study has organized into five chapters which are as follows:

Chapter one: Introduction

This is the first chapter of the study which has included background of the study, focus of the study, statement of the problems, objectives of the study, significance of the study.

Chapter two: Review of Literature

This is the second chapter of the study. It included review of related different studies, theoretical analysis, and also try to explain how this present study is different from previous studies.

Chapter three: Research Methodology

This is the third chapter of the study. This chapter deals with the research design, population and sample, source of data, techniques of data collection, methods of analysis and presentations.

Chapter four: Presentation and analysis of data

This chapter describes the research methodology used in the study. It included primary data and secondary data presentation, data analysis interpretation, and major finding.

Chapter five: Summary, Conclusions and Recommendations

This is the last chapter of the study. This chapter included the summaries and conclusion of the whole study and recommendations. The exhibits and bibliography are incorporated at the end of the study.

CHAPTER- II
REVIEW OF LITERATURE

This chapter presents the related literature about the present research that has been reviewed by the researcher and the study deals with the preference of mutual funds in the security market in the context of Nepal. In order to have an understanding of all the variables involved in the study and to gain knowledge on the subject matter, this chapter has been divided into following two parts:

Conceptual Framework

Review of Past Studies

2.1.1 Conceptual Framework

This part of literature review focuses on the conceptual review of mutual fund (investment companies) investment companies undertake the task of pooling the fund and investing in securities. Investment Company are specialized financial intermediaries that collect money by selling units to the investors and invest in portfolio of securities. The units are securities issued by investment companies to raise funds from the investors. They provide professional services to the investors and take management fee for the services provided. The managers of the funds are paid fixed management fees and any advantage that accrue through appreciation on the value of the securities pass to the investor. So, we can say that an investment company is simply a corporation that invests in marketable securities and other categories of investment such as real assets. Most popular form of Investments Company is mutual fund.

Mutual funds are diversified investments that Pool investors money to purchase stocks bonds and other securities. When you purchase shares of a mutual fund you pay the Net Asset Value (NAV) plus any applicable

sales loads and transactions fees. You also pay on going expenses while you remain invested in the fund.

Mutual fund can be thought as a company that brings together group of people and invest their money in various securities like stocks, bonds and others securities . Mutual fund actually is a pool of invest able fund that allows small investors access to a well diversified portfolio of equities, bonds and other securities even they lack the knowledge of such. Each investor have own shares, which represent a portion of the holdings of the fund. They participate in the gain or loss.

Mutual funds raise money from investors to invest in stocks, bonds and other securities. It is a package made up of several individuals investments. When those investments gain or loss value, one gains or loss as well. When they pay dividends, one gets a share of them- mutual funds also offer professional management and diversification. They do much ones investing work for oneself. (www.ameritrade.com)

Mutual funds are the investment companies that issue and sell redeemable securities that represent an undecided interest in the assets held by the fund. Mutual fund assets usually include stocks, bonds, government securities, and real assets. Primary advantages to investors are portfolio diversification and professional money management. Mutual funds are typically classified as income funds, growth funds or a combination of both income and growth. (Woelfel Charles, 1994)

Mutual funds are an investment company that buys portfolios of securities selected by a professional investment adviser to meet a specified financial goal. Investors buy shares in a fund, which represent ownership in all the fund's securities. A mutual funds ready to buy back its shares at their current net asset value, which is the total market value

of the fund's investment portfolio minus its liabilities, divided by the number of shares outstanding. Most mutual funds continuously offer new shares to investors. (Glossary of mutual fund terms)

On the basis of the above definition of mutual fund, we can conclude that mutual fund is a kind of Investment Company. Mutual fund plays an extremely crucial role in an economy. They are the vehicles for mobilization of funds towards the securities market which has becomes barometers of an economy health. It is a single large professionally managed investment company that combines the money of many individuals and institutional investors. Each investor has a claim to the portfolio established by the investment company in proportion to the amount invested. This company thus provides a mechanism for small investor to team up to obtained benefits of large-scale investing.

Investment companies differ in their types and there are basically two types of investment companies presented as follows.

Investment companies operate different mutual fund schemes to investors. Broadly these schemes may be classified as closed-end fund and open-end fund and the investment companies operating these schemes are known as closed-end companies and open-end companies.

Closed-End Companies

Closed-end investment companies are specialized investment companies that have a fixed supply of outstanding shares that invest in securities and assets of other firms. In other word, a closed-end investment is a fund that initially sells its shares the public to obtained cash to invest and them operates with a fixed number of shares outstanding. In closed-end scheme, the subscription opens only for a

limited period (one to three month) and do not allow investors to withdraw funds from the unit issuing companies. However, investors who want to sell or buy units of a closed-end fund can sell buy on organized exchanges as they are listed there. Generally, closed-end fund sell at premiums or discount price from their net assets value (NAV). Net asset value is the total market value of securities owned minus liabilities of the fund divided by the number of outstanding. Price of closed-end fund differ from their net assets value due to the various reasons, such as price-manipulation by the broker, lack of active marketing campaign, thin and inefficient market, etc.

Investment companies operating closed-end funds collect dividend, interest and capital gain from the securities held in portfolio and distribute to the unit holders. The company charges administrative and other operating expenses and takes management fee for the services provided. A closed-end fund may be classified as a diversified or a non-diversified fund. A diversified fund holds a large number of securities from different industries and thus reduces the unique risk of the portfolio. A non-diversified fund holds securities from specific industries such as banking and finance. Some non-diversified funds concentrate in specific types of securities such as convertible bonds, municipals bonds, preferred stocks etc. Some other types of funds such as country funds (like India Fund) that invest only in securities of a particular country, it is also a kind of non-diversified fund.

There are different types of closed-end funds one important type of such fund is unit investment trusts. The trusts is sponsored by a company or a brokerage firm. The sponsor purchases a specific set of securities and deposits them with a trustee (the trustee is the legal owner of the securities but the beneficiary has an equitable interest in it). Then the

numbers of shares known as redeemable trust certificates are sold to the public. These shares issued by the company represent a claim to fixed portfolio of securities. All income received by the trustee on these securities is paid to certificate holders. Since securities in the portfolio are rarely changed, there is no active management of unit investment trust, and hence annual fee charged by the sponsor is relatively low. The units of the companies are traded in OTC or can be sold back to the investment companies.

Open-End Investment Companies

Open-end mutual investment companies stand ready to buy or sell their shares based on current NAV at any time. Both buy and sell transactions are conducted at a price based on current market value (NAV). Open-end investment companies are managed investment companies and run open-end schemes. They are simply known as mutual funds. Like closed-end companies, open-end companies also raise funds from small investors by selling units and invest the fund in securities. But open-end companies offer new units to the investors on continuous basis and stand ready to repurchase already sold units from the investors at any time. It permits investors to withdraw funds a continuity basis under a repurchase arrangement. It has no maturity period and it is not listed on the secondary market.

2.1.2 Types of Mutual Fund

In addition to the above, there are many other types of mutual funds classified on the basis of their objectives and portfolio as follows:

i) **Equity Fund:** Those funds which invest in equity shares and undertake associate risk.

ii) **Income Fund:** Those funds which invest in securities which will earn high income.

iii) **Growth Funds:-** Those funds which investment in growth oriented securities so as to assure appreciation in their log run.

iv) **Liquid Funds:-** Those funds which specialize in investing in short-term money market instruments with emphasis on liquidity with a low rate of return.

iv) **Special Funds:-** Those funds which invest in only in specialized channels (like gold & silver) a specific country (Japan,\ Fund, Indian fund etc.)a specific category of companies (Technology fund).

vi) **Index Linked Funds:** those fund which invest only in those shares which are included in the market indices and in the same proportion. They move with market index.

vii) **Real State Funds:** Such funds are meant for the real state ventures.

viii) **Leveraged Funds:** Those funds which increase the size of the value of the portfolio and benefit the shareholders by exceeding gains to the cost of the borrowed funds.

ix) **Balanced Fund:** those which divide their investments between equity shares and bonds in order to meet the objectives of safely, growth and regularity of income.

x) **Hedge Funds:** Funds that buy shares whose price are likely to go up and sell short, shares whose price are expected to go down.

xi) **Off Share Funds:** These specialize in investing in foreign companies.

According to Dustin Woodard, a mutual fund is simply & financial intermediary that allows a group of investor to pool their money together

with a predetermined investment objectives. The mutual fund will have a fund manager who is responsible for investing the pooled money into specific securities (usually stocks or bonds). When one invests in a mutual fund, one is buying shares (or portions) of the mutual fund and become a shareholder of the fund (www. mutual funds. about.com) he classified mutual funds in following ways:

i. **Money Market Funds:-** There funds invest in short-term. Debts instruments and typically produce interest rates that double what a bank can offer in a checking account or savings accounts and rival the returns of a CD (Certificate of Deposit). The beauty of money market funds is that one can of the write checks out of ones a account and the provide a high amount of liquidity (ability to cash out quickly) not found in CD's.

ii. **Bond Funds:-** Bonds funds carry more risk than money market funds are often used to produce income (Useful in retirement) or to help stabilize a portfolio (diversification). The primary types of bond funds are:

   ➢ **Municipal Bonds Funds:-** Uses tax-exempt bonds issued by state and local governments (these funds are non-taxable)

   ➢ **Corporate Bonds Funds:-** Uses the debt obligations of U.S. Corporations.

   ➢ **Mortgage-Backed Securities Funds:-** Use security representing recendital mortgages.

   ➢ **U.S. Government Bonds Funds:-** uses U.S. treasury or government securities.

iii. **Stock Funds:-** Stocks funds are considered riskier than bond funds (although certain bond funds can be very risky) and are used for growing your money. Money market funds and bond funds

typically provide returns just a percentage or two above inflection, but stock funds should do much better over long periods of time there are many types of stock funds (also referred to as equity funds). There break down of the most common types of stock funds:

A) **Strategy Types**

➢ **Growth Funds:-** These funds invest in stocks belied to be the fastest growing companies in the market. Growth funds rarely provide dividend income and are considered risky investments.

➢ **Value Funds:-** This funds invest in large and mid-sized companies that appear to be overlooked or out of favor. These under valued stocks tend to pay dividends.

➢ **Blend Funds:-** These funds are "blend" of both growth and value stocks.

B) **By Size**

➢ **Large-Cap Funds-** These funds invest in companies whose market value is large. By large I mean greater than $9 billion. These" blue-Chip" fund tend to be well-established corporations and tend to pay dividends.

➢ **Mid-Cap Funds-** These funds invest in mid-sized companies whose market value is more in the range of $ 1 billion to $9 billion.

➢ **Small-Cap Funds:** These funds invest in emerging companies whose market value is less than $ 1 billion. These companies tend to use profits to grow rather than pay dividends.

IV. **Index Funds:-** These funds try to mimic a chosen index. Examples of indices include the S & P 500, NASDAR, and the Russell 2000.

An index is simply a group of stocks chosen to represent a particular segment of the market. Usually this is accomplished by purchasing small amounts of each stock in a market. Index funds are hands-off approach to investing. The manager is not trying to find the hot stocks or great deals. Instead, the manager is simply trying to match a chosen index. The result are funds that are very cost efficient , meaning the operating costs are very low, ad often bat most actively managed funds.

V. International Funds:-

- ➢ **Global Funds:-** These funds invest in both U.S. and International stocks.
- ➢ **Foreign Funds:-** These funds invests primary outside the U.S.
- ➢ **Country Specific Fund:-** These fund focused on one country of the world.
- ➢ **Emerging Markets Funds:-** This fund focus on small developing country and are consider very risky.

VI. Sector Funds:-
Sector funds choose to invest in a particular industry or segment of the market. Example of the sector include automotive, technology, banking, air transportation, biotechnology, health care and utilities. Sectors funds are considered less diversified then most mutual funds, but they do offer diversification within a particular industry.

2.1.3 Strategic for Mutual Funds

Investing in mutual has become complex with the proliferation of number and types of mutual funds. Therefore, it has become necessary to understand and adopt appropriate investment strategy for mutual funds.

The following sections present material on investment strategies for mutual funds.

I. Passive Strategies

Passive strategies emphasize buying and holding securities rather than market timing and active trading among investment alternatives. Investor who favors passive strategy may follow the following alternatives.

➢ Buy and Hold

Investors pursuing this strategy buy and hold securities. This strategy is suitable for small investors who typically lack professional knowledge for security analysis. By investing and holding mutual funds, therefore, investor can take advantage of professional investment management. However, the limitation of the strategy is that some funds are non-diversified. They invest to a specific industry or place. Buying and holding such mutual fund exposes to risk. Similarly, it is highly unlikely that an individual mutual fund always beats the market, thus, holding on mutual fund is not always superior strategy.

➢ Index Mutual Fund

Index mutual fund is another type of passive investment strategy. Index form a portfolio that attempts to duplicate the market portfolio. Investors who believe in market efficiency pursue this type of strategy. A number of bank trust departments, insurance companies and pension funds also use index portfolio. The advantages of an index fund are broad diversification, low operating expenses and limited brokerage fee.

> ➢ **Asset Allocation Fund**

Asset Allocation fund refers to the percentage invested in various securities classes. Security classes are simply the type of securities like money market investment, fixed income securities, equity shares real state investment and international securities. The purpose of these funds is to provide additional type of diversification.

II.   Active Strategies

Active Strategies is a form of investment management that involves buying and swelling financial securities with the aim of earning certain exceptional return. In spite of the efficient market assumption, it is clear that markets cannot be perceptively competent. Since, the market cannot be perfectly efficient, the active management strategy can have effective results.

Traditionally, mutual fund investors did not attempt to use active strategies. In recent years, however, because of several development in the mutual fund industry (like introduction of money market funds, profile ration of specialized sector or industry funds, rapid growth of no-load fund) mutual fund investors engage in active investment strategies. In the context of mutual funds, active strategy involves selection and timing. Investors pursue selection strategy to make selection decisions regarding specific industries. They can pursue market timing strategy by switching between money market, bond, and common stock and specialized funds within a family of funds.

2.1.4 Advantages and Disadvantages of Mutual Funds

Every investment has advantage and disadvantages. There is nothing perfect that is made by human. Mutual fund is better in many

viewpoints to people but it's important to remember that features that matter one investor may not be important to other. It has also some challenges of mutual funds.

Advantages of Mutual Fund

 ➢ **Professional Management**

By purchasing mutual funds, one is essentially hiring a professional manager at an especially inexpensive price. It would be a bite cocky to think that one knows more than mutual funds manager. These managers have been around the industry for a long time and have the academic credentials to back it up. Saying one could outperform a mutual fund manager is similar to a football fan sitting on their couch saying "I could have made that catch" - Possible but not likely. In addition, even if some are better at picking stocks than a professional and their support staff most would not want to spend the amount of time it takes to watch research and trade the market on a daily basis.

 ➢ **Diversification**

Mutual fund offer an effective way to achieve diversification by enabling investors to purchase shares in a professionally managed portfolio of securities In other words, the more stocks and bonds you own, the less any one of them can hurt you. Large mutual funds often own hundreds of different stocks in many different industries. It wouldn't be possible for an investor to build this kind of a portfolio with a small amount of money.

➢ Economic of Scale

Because a mutual fund buys and sells large amount of securities at a time. Its transaction cost is lower then an individual would pay.

➢ Liquidity

If one finds oneself in need of money in a short amount of time mutual funds are highly liquids. Simply put in ones order during the day and when the market closes a cheque will be sent or be wired to a bank account. Stocks can be much more difficult depending one what kinds of stocks one has invested in CD's offer no liquidity and bond can be difficult, too. Some mutual funds also curry cheques writing privileges, which mean one can actually write cheques from the account, similar to ones checking account at the bank.

➢ Simplicity

Buying a mutual fund is easy, pretty well any bank has its own line of mutual funds, and the minimum investment is small. Buying a mutual fund is as simple as buying a security.

Disadvantages of Mutual Fund
➢ Professional Management

The overall measure of portfolio performance can be divided into two parts: one that considers managers' market timing skill and other that refers to managers ability to successfully select individuals stocks that are miss-priced i.e. manager's selectivity skill. Did we notice how we qualified the advantage of professional management with the world "theoretically"? Many investors debate over whether or not the so-called professionals are any better than us at picking stocks. Management is by

no means infallible, and even if the funds loses money the manager still takes his/her cut.

> **Lack of Control**

Investor typically cannot ascertain the exact make-up of a fund's portfolio at any given time, nor can they directly influence which securities the fund manager buys and sells or the timing of these trades.

> **Price Uncertainty**

With an individuals stock, one can obtained real-time (or close to real-time) pricing information with relative ease by checking financial websites or by calling your broker. One can also monitor how a stock's price changes from hour to hour or even second to second. By contrast, with a mutual fund, the price at which one purchases or redeems shares will typically depend on the fund's NAV, which the fund might not calculate until many hours after one has placed ones order.

> **Taxes**

When making decision's about your money fund managers don't your personal tax situation. For example, when a fund manager. Sells a security, a capital- gain tax is triggered, which affects how profitable the individuals is from the sale. It might have been more advantageous for the individual to defer the capital gains liability.

> **Past Performance is no indication of future results**

This disclaimer should serve as a reminder that last year's hot fund may be. This year's big loser an informed investor needs to be aware of the drawback and advantageous of mutual funds. The investor who has clear investing goals and who does his or her homework will inevitably

succeed. Finding a winning fund takes care. Understood the fund manager's style and the fund's strategy. Ensure that the fund's style and strategy fits the investor's goals. These are the first steps towards successful fund investing.

2.1.5 History of Mutual Fund

The history of mutual funds began when three Boston securities executives pooled their money together in 1924 to create the first mutual fund, they had no idea how popular mutual funds would becomes. The idea of pooling money together for investing purposes started in Europe in the mid 1800s. The first pooled fund in the U.S. was created in 1893 for the faculty and staff of Harvard University. On March 21st, 1924 the first official mutual fund was brown. It was called the Massachusetts Investor Trust. After one year, the Massachusetts Investor Trust grew from $ 50,000 in assets in 1924 to $ 392,000 in assets (with around 200 shareholders). In contrast, there are over ten thousand mutual funds in the U.S. today totaling around $7 trillion (with approximately) 83 million individuals investors) according to the investment company institute. (www.investopedia.com)

Both open-end and closed-end funds were organized in Boston, New York and Philadelphia. The purpose of mutual fund was essentially the same as today to offer investors a way to obtain professional investment management along with diversification in terms of the number of securities in the portfolio. The stock market crash of 1929 temporarily halted the growth of the investment company industry. In particular many of the closed-end funds were severely hurt by the market collapse. Nevertheless, in 1940 the assets of closed-end funds were still larger than those of mutual fund. Over the next decades, however, mutual funds

outpaced closed-end funds to become the dominant organizational form for investment companies. By the end of 1989 mutual funds asset exceeded $ 922.2 billion while closed-ends funds had grown to only $ 53.6 billion. The 1990 edition contains data on more than 3600 investment companies including mutual funds, closed-end funds, unit trusts, and variable annuity separate account.

The origin of the Indian mutual fund industry can be traced back to 1964 when the Indian government, with a view to argument small saving within the country and to channalize these savings to the capital market setup the Unit Trust of India (UTI). The UTI was set-up under a specific statute, the unit Trust of India act, 1963. The Unit Trust of India launched its first open-ended equity scheme called unit 64 in the year 1964, which turned out to be one of the most popular mutual funds schemes in the country. In 1987, the government permitted other public sectors bank and insurance companies to promote mutual fund schemes. Subsequently in 1993, the security and Exchange Board of India (SEBI) introduce the securities and Exchange Board of India (Mutual Funds) Regulations, 1993, which paved way for the entry of private sector players in the mutual fund industry. (www.mutualfundsindia. com)

The history of mutual fund in Nepal in comparison to the other countries is quite new. Citizen Investment Trust (CIT) was the first institution that provides the professional management of the fund. It was started in 1990. CIT is incorporated under Citizen investment Trust Act, 1990 with a view to expand investment opportunities by encouraging general public to save capital and to bring the dynamism in the development of capital markets. "CIT is basically the saving and investment institution and it statutorily derives a special status and privileges, which adds up its strengths to emerge as a national institution

reaching wider spectrum of the population. CIT at the same time achieves a high professionalism in the financial intermediation and has an ability to provide varied capital market services.

NIDC capital market was then the second organization which introduce the first mutual fund namely NCM Mutual Fund in 2050 in Nepalese Financial market. Initially, this mutual fund was issued as open-end fund but later in 2059, it was converted in closed end fund.

2.1.6 Mutual Fund in Nepal

NCM First Mutual Fund:

The history of mutual fund in Nepal started with the flotation NCM first mutual fund 2050 by NIDC capital markets. In 1993, it floated units of Rs. 10 par value in the beginning. The fund was of open-end type in which individuals ad organizations could purchase the unit. The investor right on the fund was proportional to the number of units taken from the fund. The fund performed well in the beginning when there was boom in stock market. However, its performance deteriorated in 1995 and its trading had to be suspended due to excessive selling pressure. After sometimes, the fund was restructured into closed end fund to bring it back into operation. Nepal Rastra Bank and Nepal Industrial Development Corporation (NIDC) injected is 45 million and Rs. 15 million respectively to revive the fund and provide liquidity in 1995. After the restructuring, NIDC worked as the manager of the fund and NIDC capital markets worked as the trustee for the fund. NIDC had constituted a five member fund management committee which looked after the management of the fund.

The NCM first mutual fund's term completed in 2001 (2058), hence another fund-NCM mutual fund 2059 was floated in 2059 (2002). The major features of the NCM mutual fund 2059 are as follows.

- It is a close-end type of fund of Rs. 100 million divided into 10 million units of Rs. 10 face value.
- The term of the scheme is 10 years.
- The trustee organization (NIDC) and the manager of the fund (NIDC) capital market have invested 15 percent of the total fund as seed money.
- They fund has guaranteed at least 5 percent return on the face value of subscribed units.
- The units have been listed in Nepal Stock Exchange and its price is determined in the exchange through the interaction of market forces based on demand for and supply of mutual fund.

The manager of the fund has constituted a fund management committee and investment sub-committee to manage the fund.

The committee follows number of investment policies to insure good return and safety of the investment. The general investment policies of the fund are:

- The investment of the fund on shares and debentures will be made on financially sound listed companies.
- The fund can be invested in share (equity as well as preferences), debentures, bonds and term loan. The maximum limit on shares, debentures and term loans is 65 percent, 15 percent and 20 percent respectively. However, there is no limit on investing in government or government guaranteed securities.

- The investment on securities of one company will be limited to 10 percent of the paid up capital of that company.
- The investment in any organization or company will not exceed by 10 percent of the total assets of the fund.

Citizen Investment Trust Mutual Fund

Citizen Investment Trust (CIT) a trust company registered under citizen investment trust Act 2047, also manages unit scheme. CIT started managing unit scheme by floating citizen unit 52 in 2052. CIT put Rs. 5 million as seed capital in the beginning. The total investment was only is 65 million at the end of 2052/53 which has increased to Rs. 4,027 million by the end of 2059/60. The main features of citizen unit 52 are as follows.

- It is an open-ended scheme. The units can be purchased from and sold be CIT at any time. Therefore, the number of units outstanding varies from time to time.
- This scheme has also guaranteed a minimum return to its investors.
- It is described as a regular income plus growth oriented scheme.
- It can be purchased by an individual as well as an organization.
- CIT has taken the responsibility of operation and management of the scheme. It has constituted a trustee committee and investment committee for the effective management of the scheme. The management fee is limited to 1.5 percent of the total fund and 15 percent of the total income.
- CIT invests the fund in government securities, fixed deposit accounts of commercial bank, shares and debentures of corporate organizations, terms loan and bridge financing.

Securities Investment Trust Act, 1997

The securities investment trust Act is an important trust Act in Nepal. There were no specific regulations till 1997 to govern mutual funds in Nepal. It used to be governed by various regulations like companies Act, security Exchange act, etc. In view of the growing need for the specific regulation for the establishment and operation of trust fund, Nepal enacted securities investment trust Act, 1997. The major features of the Act are as follows.

The regulations are based in nature prescribing the form of utilization for grant of registration and seeking detailed information relating to the sponsor, trustees of the fund, asset management company and financial position. The regulations provides for registration of the mutual funds with the securities board, Nepal. Mutual funds are required to be formed as trusts and managed by separately formed management companies.

SEBON observed the necessity of drafting an investment Trust Act to enable the establishment and operation of trust funds. There investment vehicles served the interests of small investors by professional funds. These investment vehicles served the interests of small investors by professional fund Management Company and an economy of scale in the fund management, even before the Nepalese capital market had seen floatation of mutual funds.

With a view of give a sound legal footing and to protect the interest of the investors, the legislations have provisions regarding the fund management companies and the trustee. The act enhances transparency and brings the trust fund within the regulatory domain of the SEBON. The law will become operative after having its regulations.

The management of mutual fund in Nepal is regulated and guided by the following act, regulation and guidelines.

1.   Securities Exchange Act 1983
2.   Securities Exchange Regulation, 1993
3.   Company Act 1997
4.   Securities Listing Bye- laws 1996
5.   Issue Management Guidelines; 1997
6.   Securities Allotment Guidelines; 1994
7.   Government Securities Trading Management 2005
8.   Securities and Issue Regulation, 2006
9.   Company Ordinance, 2006
10.   Broker and Dealer Regulations, 2006
11.   Securities Board of Nepal Regulation, 2006

2.1.7 Net Asset Value

Net Asset Value (NAV), which is a fund's assets minus liabilities is the value of a mutual fund. NAV per share is the value of one share in mutual fund, and it is the number that is quoted in newspaper. If you see a fund NAV as Rs. 100, then you can expect to buy the fund for Rs. 100 or sell it for Rs. 100 although some loaded of funds don't follow this topic. When you buy shares; you pay the current NAV per share plus any sales front-end load. When you sell your shares, the fund will pay you NAV less any back-end load. You can basically just think of NAV per share as the price of a mutual fund. It fluctuate everyday as fund holdings and shares outstanding change. Since mutual funds hold a number of securities, the NAV must be calculated at the end of day as daily basis.

2.1.8 Calculating NAVs

Calculating mutual funds net asset value per share is easy. Simply take the current market value of the funds net assets (security held by the fund minus any liabilities) and divided by the number of shares outstanding. So if a fund had net asset value of Rs. 140 million and there are one million shares of the fund, then the price per share (or NAV) is Rs. 14.

NAV can be found out by solving the following equation:

$$\text{Net Asset Value (NAV)} = \frac{\text{Assets - Liabilities}}{\text{Number of Shares}}$$

When you buy shares, you pay the current NAV per share plus any sales front-end load. When you sell your shares the fund will pay you NAV less any back-end load.

2.1.9 How to Use Net Asset Values

NAVs are helpful in keeping an eye on yours mutual fund's price movement but NAVs are not the best way to keep track of performance. The reason for this is mutual fund distributions. Mutual funds are forced by law to distribute at least 90% of its realized capital gain and dividend income each year. When a fund payout this distributions, the NAV drops by the amount paid. This is important because an investor may become frightened when see their fund's NAV drop by the amount paid. Even they haven't lost any money though they haven't lost any money which was paid out to the shareholders.

The most important thing to keep in mind is that NAVs change daily and are not a good indicator on how your portfolio is doing because things like distributions mess with the NAV.

2.1.10 Rate of Return of Open-End and Closed-End Fund
Holding Period Return for Open-End Fund

The rate of return or holding period return (HPR) for the open-end company or mutual fund is calculated in the same manner as it is calculated for other securities by relating the income from the investment to the investment made initially. An investor of mutual fund receives the following return.

- Dividend payment
- Capital gain/loss in the investment
- increased in the NAV value

Therefore, the HPR of the open-end fund can be calculated by adding the changes in net asset value to the amount of capital gain/loss and dividend and then dividing this total by the net value at the beginning of the period.

Symbolically:

Rate of return of open-end fund (HPR)

$$HPR = \frac{(NAV_{t+1} - NAV_t) + CG_{t+1} + Div_{t+1}}{NAV_t}$$

Where, NAV_{t+1} = Net asset value at the end of the period

NAV_t = Net asset value at the beginning of the period

Div_{t+1} = Dividend at the end of the period

CG_{t+1} = Capital Gain at the end of the period

Holding Period Return for Closed-End Fund

The rate of return of closed-end Company is simply the total return an investor would receive during the investment period or holding period stated as a percent of the investments price at the start of the holding period.

$$HPR = \frac{(NAV_{t+1} - NAV_t) + CG_{t+1} + Div_{t+1}}{NAV_t}$$

Where, NAV_{t+1} = Net asset value at the end of the period

NAV_t = Net asset value at the beginning of the period

Div_{t+1} = Dividend at the end of the period

CG_{t+1} = Capital Gain at the end of the period

2.2 Performance Measures of Mutual Funds

Return alone should not be considered as the basis of measurement of the performance of a mutual fund scheme, it should also include the risk taken by the fund manager because different funds will have different level of risk attached to them. Risk associated with a fund. In a general, can be defined as variability or fluctuations in the returns generated by a fund are resultant of two guiding forces. First, general market fluctuations. First, general market fluctuations, which affect all the securities, present in the market, called market risk or systematic risk and second, fluctuations due to specific securities present in the portfolio of the fund, called unsystematic risk. The total risk of a given funds is sum of these two and is measured in terms of standard deviation of returns of the fund. Systematic risk, on the other hand, is measured in terms of Beta, which represents fluctuations in the NAV of the fund in market. The more responsive the NAV of a mutual fund is to the changes in the market; higher will be its beta. Beta is calculated by relating the returns

on a mutual fund with the returns in the markets. While unsystematic risk can be diversified through investments in a number of instruments, systematic risk cannot. By using the risk return relationship, we try to assess the competitive strength of the mutual funds one another in a better way.

Mutual funds invest according to the underlying investment objectives as specified at the time of launching a scheme. So, it can be equity funds, debt funds, and many other funds that cater to the different needs of the investor. The availability of these options makes them a good option. While equity funds can be as risky as the stock markets themselves, debt funds offer the kind of security that is aimed for at the kind of making investments. Money markets funds offer the liquidity that is desired by big investors who wish to park surplus funds for very short-term periods. Balanced funds act to the investors having an appetite for risk than the debt funds but less then the equity funds. The only pertinent factor here is that the fund has to be selected keeping the risk profile of the investor in mind because the products listed above have different risk associated with them. So, while equity funds are a good bet for a long term, they may not find favor with corporate or high net worth individuals (HNIs) who have short term needs.

In order to determine the risk-adjusted returns of investments portfolios, several eminent authors have worked since 1960s to develop composite performance indices to evaluate a portfolio by comparing alternative portfolios within a particular risk class. The most important an widely used measured of performance are:

– The Treynor Measure
– The Sharp Measure
– Jensen Model

2.2.1 The Treynor Measure

Developed by Jack Treynor, This performance measures evaluates funds on the basis of Treynor's Index. This index is a ratio of return generated by the fund over and above risk free rate of return (generally taken to be the return on securities backed by the government, as there is no credit risk associated), during a given period and systematic risk associated with it (beta) symbolically; It can be represented as:

$$\text{Treynor's Index } (T_i) = \frac{\bar{r_i} - r_f}{\beta_i}$$

Where, r_i represents return on fund, r_f is risk free rate of return and β_i is the beta coefficient of the fund.

2.2.2 The Sharp Measure

In this model, performance of a mutual fund is evaluated on the basis of Sharpe ratio, which is a ratio of returns generated by the fund over and above risk free rate of return and the total risk associated with it. According to sharp, it is the total risk of the fund that the investors are concerned about. So, the models evaluate funds on the basis of reward per unit of total risk symbolically, It can be written as:

$$\text{Sharp Index } (S_i) = \frac{\bar{r}_i - r_f}{\dagger_i}$$

Where, r_i is the return on the fund, r_f is the risk free rate of return and $\dagger_i$ is standard deviation of portfolio i.

While a high and positive sharp ratio shows a superior risk-adjusted performance of a fund, a low and negative Sharpe ratio is an indication of unfavorable performance.

2.2.3 Jensen Model

Michael Jensen developed this measure for portfolio is based on CAPM. The version of CAPM which is used to compute securities or portfolio's expected rate of return is given by

$$E(r_i) = r_f + \beta_i [\bar{r}_m - r_f]$$

Where, $E(r_i)$ = the expected return on securities or portfolio 'i'

r_f = one period risk free rate of return

β_i = the systematic risk coefficient (beta) for security or portfolio 'i'

r_m = the expected return on market portfolio.

Jensen's measure is the average realized return on the portfolio over the return predicted by the CAPM, given the portfolios.

Jensen's Measure;

$$(\alpha_P) = \bar{r}_P - [r_f + \beta_P(\bar{r}_m - r_f)]$$

Hence, Jensen's measure (α_P) represents how much of the rate of return on the portfolio is greater then the average returns adjusted for risk (or average return assigned by (CAPM). A $^{+ve}$ α_P indicates the superior portfolio performance or selecting under valued portfolios.

The Jensen's measure of portfolio performance has advantages over the Treynor and Sharp. First it is easier to interpret in that an alpha value of 0.02 indicates that the portfolio generated a return of 2% per period more than what was expected given the portfolio's risk level. Second, it assists to know whether an asset is over or under valued.

If α_P is $^{+}$ve asset (portfolio) is under valued.

If α_P is $^{-}$ve asset (portfolio) is over valued.

For ranking the portfolio according to their performance, it is advisable to divide the $_p$ by $_p$ so as to achieve a relative measure and provide a reliable rank.

Among the above performance measure, two models namely, Treynor measure and Jensen's model use systematic risk based on the premise that the unsystematic risk is diversifiable. These models are suitable for large investor like institutional investor with high risk taking capacities as they do not face paucity of fund's and can invest in a number of options to dilute some risks. For them, a portfolio can be spread across a number of stocks and sectors. However, sharp measure model that consider the entire risk associated with fund are suitable for small investors, as the ordinary investor lacks the necessary skill and resources to diversify. Moreover, the selection of the fund on the basis of superior stock selection ability of the fund manager will also help in safeguarding the money invested to a great extent. The investment in funds that have generated big returns at higher levels of risks leaves the money all the more prone to risks of all kinds that may exceed the individual investors' risk appetite.

2.3   Review of Previous Master's Degree Thesis

This part presents and discusses the literature in the field of portfolio performance measurements. Since academic research in this field is quite rare in Nepal, my objective is to provide an overview of different theories and methods and further encourage their application in Nepalese mutual fund portfolio. While this literature review is far from complete, most of the essential contributions regarding the measurement of mutual fund portfolio performance are as follows:

1.	Neupane, Suman (2001), In his dissertation entitled "A study of mutual fund performance in Nepal". Deals with the following problems:

− Why are the investors not interested to investing in mutual fund?
− What is the performance of the mutual funds in the country in terms of risk adjusted return?
− Are the mutual funds generating returns in excess of market returns?
− Is there a need of a mutual fund (or investment company) in country like ours?
− Which of the funds generated higher returns?

With due consideration to the problems; the objectives of the study has been set as follows:

− To find out the performance of the mutual fund currently operating in the country in terms of risk adjusted returns.
− To figure out weather the funds have been able to out perform the market portfolio in terms of risk adjusted returns.

− To find out as to which of the two funds performed better during the period studied in terms of risk-adjusted returns.

His study resulted that the NCM mutual fund is not as efficient as the market portfolio. CIT seems to be a better performing fund then the NCM Mutual Fund on the basis of the annual rates of returns. In addition he camp up with several deficiencies in the practice of mutual funds in Nepal. The deficiencies rang from passive investment strategy adopted by funds manager to the repurchase of unites at par value rather then at

NAV. He also concluded that it has been far from satisfactory level in comparison to the market portfolio.

2.   Sirjana Mahato(2002) made a study on the topic of "Risk and return analysis of investing in mutual fund". The main purpose of her study was to know the risk and return of mutual fund in Nepal and its performance she used NEPSE index as a basis and data of 44 months (2055-2057) for evaluating the performance of Mutual fund in Nepal. In her study, she used the following statistical and financial measure to find out risk-adjusted and evaluate the performance of Mutual Fund:

-   Sharp Index
-   Treynor's Index
-   Jenson Alpha
-   Reward to Volatility Ratio (RVOLP)
-   Reward to variability Ratio (RVAR)

In conclusion, she found out that the NCM mutual fund is higher then the market but total risk of the market (S.D.) is less than NCM mutual fund. It means that NCM mutual fund is riskier then the market.

In her consideration, there exist several deficiencies in the practice of mutual fund in Nepal. Since the return is comparatively low as the risk is higher, as a result, investors are hesitating to invest their money in mutual fund. Thus, investors prefer investing in stock to mutual fund. She even believes that one of the major reasons for the failure of mutual fund might be due tot the lack of proper knowledge.

3.   Rabin Hada (2004) made a study on a topic of mutual fund; "An Emerging Trend in Nepalese Financial Market". The main objective of

his study was to examine the need and significance of mutual fund for Nepalese economy and to explore the current problems being faced by the mutual fund and its performance in Nepalese market.

In his study, he has examined the trading trend of NCM mutual fund in NEPSE index .The projected and actual NAV of NCM mutual fund has been analyzed with trend analysis.

After analysis, he has concluded that NCM mutual fund has underperformed or could not perform efficiently. He has also added that Nepalese capital market which is an important sector or Nepalese economy could not develop sufficiently to sustain the financial institutions like mutual fund companies.

4.   Raj Kumar Rai (2005) made a study on a topic of "problems and prospects of Mutual fund companies in Nepal". The main purpose of his study was to study the existing situation of mutual funds in Nepal and to find out the problems and prospects of a mutual fund companies in Nepal. After his study he found that monthly market return was more of fluctuating then fund. He also found there was gap between average rate of return and market rate of return. Most of investment focused on share and debenture. The issuance of security in Nepalese capital market is dominated by government debt securities which are not traded through organized stock market. He also concluded that the most of people don't have knowledge of mutual fund. Nepalese securities market is not enough develop for mutual fund because of the unavailability of sufficient types of securities for portfolio management. He also found that the existing mutual funds schemes are not sufficient for investor and investors don't invest their money in mutual funds because of the lack of sufficient knowledge.

5.   Braja Mohan Adhikari (2003) made a study on a topic of a "Financial Study of Mutual Fund Companies in Nepal." A comparative study of citizen investment Trust and NIDC capital markets Ltd. In his study, He focused mainly on the financial performance of citizen investment Trust and NIDC capital markets Ltd. on the context of mutual fund operating under these organizations. He used financial ratio for this comparative study. He concluded that the financial situation of CIT is slightly better than NIDC capital market Ltd., in terms of the profitability a activity ratio. However, the liquidity and the capital structure of NIDC capital markets Ltd. are better than CIT.

6.   Deepak Adhikari (2006) made a study on a topic of "Problems and Prospects of Mutual Fund Companies of Nepal". From his study, he found that the portfolio performance of CUS is better then NCM without adjusting NAV, if the CUS do not give attention to improve its NAV, It would not be able to provide higher return to investors ad would become financial crisis in future because NAV is actual value of unit and it is lower than par value of unit of CUS.

From the primary data analysis, He concluded that citizen investment scheme is new concept in Nepal so many people do not have knowledge about mutual fund. On the other hand, Nepalese mutual fund are doing struggle because of various challenges of external and internal factors such as investors do not have knowledge about mutual fund, unstable political environment, passive investors are still in majority , inefficient management, etc.

7.   Other Related Studies

Kothari, S.P and J. Warner (2001), in their article "Evaluating Mutual Fund Performance", have studied standard mutual fund

performance measures, using simulation procedures combined with random and random- stratified samples of NYSE and AMEX securities. They have tracked simulated fund portfolios over time. These portfolios performance is ordinary and well-specified performance measures should not indicate abnormal performances. The main result is that the performance measures are badly miss-specified. Regardless of the performance measure, there are indications of timing ability, when none exists.

They have constructed a 50 stock mutual fund portfolio each month from January 1964 through December 1991 and have tracked these 2336 simulated mutual fund portfolios' performance measure namely sharp measure, Jensen Alpha, Treynor Measure, and the Appraisal Ratio, and Fama-French Three factor model Alpha. From the simulations the main message that has been derived is that standard mutual fund performance are unreliable and can result in false inferences in particular, it is easy to detect abnormal performance and market- timing ability when none exists. The result shows that the range of measured performance is quite large even when true performance is ordinary. It provides a bench mark to gauge mutual fund performance. Comparisons of the numerical results with those reported actual mutual fund studies raise the possibility that reported results are due to misspecification, rather than abnormal performance.

Finally, the results have indicated that procedures based on the Fama-French 3-Factor model are some what better than CAPM based measures. This is not surprising, and indicators that 'style analysis is useful in benchmarking fund returns. The misspecification even for Fama-French suggests at least two possibilities one is that size and book-to market do not completely describe the characteristics relevant for

expected returns. The second is related to the estimation process, and that sampling distributions of the performance measures differ from those assumed under null hypothesis, for example because expected returns change overtime. Further investigation of the latter possibility could be particularly fruitful in explaining why the tests using simulated portfolios often show market timing when none is present.

In the book" Investments" Bodie Zvi, Kane Alex and Marcus Alan J. (2002) opine that mutual the mutual funds free the individuals from many of the administrative burdens of owing individual securities and offer professional management of the portfolio. They also offer advantages that are available only too large -scale investors, such as discounted trading cost. On the other hand, funds are assessed management fees and incur other expenses, which reduce the investor's rate of return. Funds also eliminate some of the individual's control over the timing of capital gains realizations.

The average rate of return of the average equity mutual fund in the last twenty five years has been below that of a passive index fund holding a portfolio to replicate a broad based index like the S and P 500 or Wilshire 5000. Some of the reasons for this disappointing record are the costs incurred by actively managed funds, such as the expense of conducting the research to guide stock-picking activities. And trading costs due to higher portfolio turnover. The record on the consistency of fund performance is mixed. In some sample period, the better performing funds continue to perform well in the following periods, in other sample period they do not.

In the Book, "Modern investment theory", Haugen, Robert A. (2002), has analyzed the measures used to evaluate the performance of the portfolios. He views that a portfolio's rate of return is an inadequate

measure of performance. It is more dependent on the risk of the portfolio and the performance of the market than it is on the quality of the portfolios managers. Therefore, he favors the risk-adjusted measure of performances.

Three risk-adjusted measures of performance have been suggested that are based on the CAPM. The Jensen and Treynor not indices use the security market line are a benchmark. Both focus on management's ability to generate excess returns depth of performance and ignore its ability to generate excess returns on more than one security (breadth of performance). The Treynor Index recognizes the opportunity for portfolio investors to lever excess returns. It is in that sense a better measure of the attractiveness of a give portfolio as an investment opportunity for portfolio investors to lever excess returns. It is in that sense a better measure of the attractiveness of a given portfolio as an investment opportunity. The Sharpe index uses the capital market line as a benchmark. It is a composite measure of the depth and breadth of performance.

All three measures suffer from potential problems. If in estimating the measures you assume the wrong form of the CAPM holds in the market place you get biased measures of performance, usually in favor of low risk portfolios. This problem is easily handled in the case of Sharpe. The Jesen and Treynor measures also suffer from the problem, of possible misspecification of the market portfolio. In constructing the measure', you clearly want to use the broadest market indices which most closely. Approximate the market portfolio. However, since even the broadest market indices are very distant cousins of the true market portfolio you never know whether the number you get from the index is related to the quality of the portfolio's management or the inadequacy of the index you used.

CHAPTER - III
RESEARCH METHODOLOGY

3.1   Introduction

Research methodology is a systematic way to solve the research problem. It may be understood as a science of Studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher, studying his research problem among with the logic behind them. In order to examine the role of mutual funds, evaluate their performance and find out the reasons affecting their performance in the securities market, the study has followed a systematic process of collection, presentation and Interpretation of relevant details and data. This chapter deals with the research design adopted, population and sample taken, the data gathering procedure followed, variables and measures considered and other various statistical and financial tools used for data processing, analysis, and Interpretation.

The basic frame work of this study is descriptive as well as analytical. The nature of data and method of analysis used in this study are described as follows.

3.2   Research Design

A Research Design is a plan of the proposed research work. A research model or design represents a compromise dictated by mainly practical considerations. Such man has pointed out that "A research design is not a highly specific plan to be followed without deviation, but rather a series of guide posts to keep one headed in the cook," A research design is the arrangement of conditions for collection and analysis of data

in a manner that aims to combine relevance to the research purpose with economy in procedure". (Ghosh, B.N. 1986)

The study is based on empirical and analytical research design. It seeks to assess the opinions, behaviors, or characteristics of a given population i.e. NCM mutual fund and Citizen Unit scheme and to describe and evaluate the performance of these mutual fund. Various statistical and financial tools have been used to analyze the subject matter.

3.3   Population and Sample

Since the concept of mutual fund is still in practice in Nepalese financial market. It has been not able to cover a wide range. Hence, the citizen Investment Trust (CIT) and the NCM mutual fund are considered to be the population.

Since there are only two mutual funds In Nepal, This study is mainly based on both First mutual fund of Nepal, the NCM mutual fund and citizen Investment Trust (CIT)'s mutual fund.

3.4   Types of Data Collection

The data collections a major part of this study since it plays a key role in the analysis. This study is totally based on the secondary data so, the accuracy in result depends upon the accuracy of secondary data. However primary data also used to collect some relevant Information.

a.   Primary Data Collection

The primary data are taken from questionnaires. The questionnaires were distributed directly to the financial Executive of the NIDC capital market, citizen Investment trust, Nepal stock exchange and security

Board of Nepal. The questionnaires were also distributed to the finance teachers, students Investors, brokers at NEPSE, Assuming that they have the knowledge of mutual funds and can help in deriving the true picture.

b.   Secondary Data

To find the structure, performance and other theoretical Information secondary data has been used. The major sources of data are as follows:

➢ Annual reports of NIDC Capital market.
➢ Annual reports of CIT.
➢ Official reports of CIT and NIDC Capital market from security Board, Nepal.
➢ Prospectus and Bulletins of CIT.
➢ Previous study thesis and reports Bulletins of NEPSE.
➢ Income - Expenditure account and Balance sheet of CUS.
➢ Balance sheet and Income statement of NCM mutual fund.
➢ Course books and materials.
➢ Various financial Journals.
➢ Finance websites.
➢ Website of Nepal stock exchange.
➢ Others

3.5   Data Collection Techniques

The data used for analysis were collected by visiting, security Board of Nepal (SEBON), NIDC capital market and citizen Investment trust. I also visited the Nepal stock Exchange for relevant required data and information. From above organization primary and secondary data have been collected.

3.6 Method of Data Presentation and Analysis

The basis structure of this research is descriptive and analytical as well. In order to make the study more precise, the data are presented in the tabular from. Charts and diagrams are used to clarify and verify the data presented. Various financial and statistical tools are used to evaluate the performance efficiency and profitability of security. Efforts have been made to make the data presentation and analysis more simple and easy to understand.

After the collection of research data, an analysis of those data and its interpretation of the result are required. The facts and figures collected are to be processed with a view to reduce them to the manageable proportions. Once such processing is done, the statistical treatment and meaningful Interpretation leads to formulation of the theory of finding thus the data processing comprises of editing, coding, categorization and tabulation was carried out.

Descriptive and Analytical method have been used for analysis data. The descriptive analysis helps us to get the detailed Information about the subject matter under study. Like in this case, I tried to present the various aspects of mutual fund In Nepalese context. In think it helps us to know more about the mutual fund and its present condition Nepalese economy. For the analytical analysis the following financial and statistical tools are used.

3.7 Tools for Analysis

Basically financial and statistic tools have been used for data analysis.

Financial Tools

Financial tools are used to evaluate the financial performance of the fund in the capital market. By using financial tools we can measure the performance and efficiency of the Fund In the financial market.

1.   Net Asset Value per Share

It can be calculated by taking the current market value of the fund's net assets (securities held by the fund minus any liabilities) and divided by the no of share outstanding.

$$\text{Net Assets Values (NAV)} = \frac{\text{Assets} - \text{Liabilities}}{\text{Number of Shares}}$$

2.   Market Price of the Fund

The price at which the stock is purchased and sold in the market is known as the market price. It is determined by the law of Demeaned and supply. It is one of the most important tools to measure the fund's performance and the efficiency of the management. There are many factors, such as, firm's goodwill, Net Income, expected Dividend management etc. affect the market price of a stock. When taking market price three types of price: high price, low price and closing price are recorded. But the closing market price of the fund is used for the analysis.

3.   Holding Period Return
Return for open-End fund

Return is the total gain or loss experienced on an investment over a given period of time. The rate of return for open-end company or mutual fund is calculated in the same manner as it is calculated for other

securities - by relating the Income from the investment to the Investment made initially. An Investor of mutual fund receives the following return.

- ➢ Dividend / Interest in the Investment.
- ➢ Capital gain / loss in the investment.
- ➢ Change in the NAV of the investment.

The HPR of the mutual fund can be calculated by.

$$HPR = \frac{(HAV_{t+1}\text{-}NAV_t) + CG_{t+1} + Div_{t+1}}{NAV_t}$$

Where, NAV_{t+1} = Net Asset value at the end of the period

NAV_t = Net assets value at the beginning of the period.

Div_{t+1} = Dividend at the end of the period

CG_{t+1} = Capital gain at the end of the period.

Return for Closed - End Fund:

The rate of return of closed-end Company is simply the total return an investor would receive during the investment period or holding period stated as a percent of the investments price at the start of the holding period.

$$HPR = \frac{(NAV_{t+1} - NAV_t) + CG_{t+1} + Div_{t+1}}{NAV_t}$$

Where, NAV_{t+1} = Net asset value at the end of the period

NAV_t = Net asset value at the beginning of the period

Div_{t+1} = Dividend at the end of the period

CG_{t+1} = Capital Gain at the end of the period

Statistical Tools

The statistical tools are Indispensable measure for evaluating the performance of the fund. Hence, some of the statistical tools used in this study are explained below

1 Average Rate of Return

The Average rate of return is the sum of the various one-period rate of return divided by the number of period. It is denoted as

$$\left(\overline{r_i}\right) = \frac{\sum r_i}{n}$$

Where, r_i = return of security i

n = number of years

2 Standard Deviation

Standard Deviation (SD) is defined as the positive square rest of the mean of square of the deviation taken from the arithmetic mean. It is statistical tools that measure the variability of distribution of return around its means or average return.

It is mainly used to find out the total risk of the fund. It is defined as:

$$= \sqrt{\frac{\sum [r_i - \overline{r_i}]^2}{n}}$$

Where, σ = Standard deviation.

r_i = Rate of return

$\overline{r_i}$ = Average rate of return

n = No. of periods.

3. Co-variance

Co-variance of two securities measures their co-movement. The portfolio variance (or standard deviation) is affected by it-

$$COV\left(r_j r_i\right) = \frac{\sum\left[r_i - \bar{r_i}\right]\left[r_j - \bar{r_j}\right]}{n}$$

Where, r_j = return of security j

r_i = return of security i

3. Beta

Beta is used to measure non diversifiable risk. It is an index of the degree of movement of an assets return in response to a change in the market return. It shows the relationship between market return and asset's return. Beta of market return is always equal to 1. If an asset has a beta grater than 1, the means that the returns of assets are more volatile than return of the market. If the beta of particular assets is less then 1, It means that the returns of the assets are less volatile then market return.

The beta of an asset is defined as:

$$\beta_j = \frac{COV_{jm}}{\sigma_m^2} = \frac{P_{jm} \times \sigma_j \times \sigma_i}{\sigma_m^2}$$

Where,

β_j = Beta coefficient of securities j

COV_{jm} = Co-variance between asset's return of j and market return

σ_m^2 = Variance of market return

P_{jm} = Correlation between security j and market

σ_m = Standard deviation of market return

σ_j = Standard deviation of return security j.

In this study, the beta coefficients of the fund help to find out systematic risk.

4 Coefficient of variation (CV)

Standard deviation is the absolute measure of risk. The relative measure of risk based on the standard deviation is known is the coefficient of variation. It is a measure of relative dispersion that is used to compare the risk of assets with differing expected return. If the coefficient of variation is high, grate will be the risk.

$$C.V = \frac{\dagger}{E(R)}$$

Where, σ = Standard deviation

$E(R)$ = Expected return

5 Market Variance

By using market variance we can find the market return fluctuate which is calculated by using following formula.

$$m^2 = \frac{\sum\left(R_m - \overline{R_m}\right)^2}{n}$$

Where, R_m = rate of return of market

$\overline{R_m}$ = Average rate of return of market.

Performance Evaluation Tools

When considering a portfolio's performance it is important to consider both returns and risk. There are various methods applied to measure the portfolio performance. Three measures are used to evaluate the risk adjusted performance of mutual fund. They are as follows:

1)   Sharp's Index

It Measure the reward to (total) variability trade off. Sharp Index measures the risk premium of the portfolio relative to the total amount of risk in the portfolio. The risk premiums the additional return over and above the risk less rate that is paid to induce Investors to assume risk. It defines a single parameter portfolio performance Index that is calculated from both the risk and return statistics. The sharp Index in given by:

$$S_i = \frac{\overline{r_i} - r_f}{\sigma_i}$$

Where, S_i = Sharpe Index of portfolio performance.

$\overline{r_i}$ = average return on portfolio i during a specified time period.

r_f = Average risk free rate during the same time period.

σ_i = Standard deviation of portfolio 'i'

2   Treynor's Index

It measures the risk premium of the portfolio where risk premium equal the difference between the return of the portfolio and the risk less rate. This risk premium is related to the amount of systematic risk assumed in the portfolio so, the Treynor or Index sums up the risk and return of a portfolio in a single numbers, while categorizing the performance of the portfolio. It is given by

$$T_i = \frac{\overline{r_i} - r_f}{\beta_i}$$

Where,

T_i = Treynor Index

$\overline{r_i}$ = The average rate of return for portfolio 'i' during a specified time period.

r_f = The average rate of return on a risk free investment during the same time period.

$_i$ = The slope of the fund's line characteristic line during that time period.

Jensen Alpha

Michael Jensen has also developed a method for evaluating a portfolio's or asset's performance. Jensen's measure is the average return on the portfolio over and above that predicted CAPM, given the portfolio's beta and the average market return. Jensen's measure is the portfolio's alpha value. A simplified version of his basic model is given by:

$$r_p = \bar{r}_p - \left[r + (\bar{r_m} - r)s_p \right]$$

Where,

$\bar{r_p}$ = Expected return on portfolio

r_f = Risk free rate of return on portfolio

r_m = Expected return on market portfolio

β_p = Systematic risk coefficient for portfolio

Bar Diagram and Pie-Chart

For the analysis of primary data bar diagram and pie-chart have been used. All respondent are assume to be hundred percent. On the basis of percentage; the result has analyzed.

CHAPTER-IV
PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the presentation, analysis and interpretation of relevant data which is in the raw form has been organized and arranged for analysis. This part is the man body of the study. This part is mainly concerned about both primary and secondary data, which were collected, analyzed, and evaluated with help of various financial tools. Secondary data of both NIDC's mutual fund and CIT's mutual fund were collected and interpreted in order to meet the objective of the research with the help of this analysis, efforts have been made to highlight of performance evaluation of NCM mutual fund and CIT mutual fund. For the purpose of simplification and understanding, data presentation and analysis has been categorized into two sections as follows:

4.1.   Presentation and Analysis of Secondary Data

4.2.   Presentation and Analysis of Primary Data

4.1.   Presentation and Analysis of Secondary Data

With the help of secondary data, the role and the performance of mutual funds in Nepal has been analyzed with regards to performance analysis, it has been examined in terms of management performance, total risk, systematic risk, returns and other various indexes.

4.1.1 Performance of Citizen Investment unit Scheme

In the fiscal year 2006/07, citizen investment trust (CIT) sold units amounting to Rs. 1702.32 million & repurchased units amounting to Rs. 1410.01 million under citizen unit scheme by the end of the fiscal year 2006/07, the total investment was is 707.77 million and the profit was is 488.3 million under the scheme. The total number of participants of the

scheme reached 2795. In the fiscal year 2006/07 the scheme distributed 6.25 percent dividend to its unit holders.

Table 4.1

Performance of Citizen Investment unit Scheme

(Rs. in million)

S.N.	Particular	Fiscal Year						2006/07 change from base 2001/02
		2001/2	2002/3	2003/4	2004/5	2005/6	2006/7*	
1	Total amount of unit sold	645.26	837.5	1003.9	1215.6	1486.3	1702.3	163.82 %
2	Total amount of unit purchased	280.62	432.2	536.3	702.5	829.0	1004.1	258.8%
3	Investment	671.50	414.4	417.00	567.6	657.5	707.8	90.52%
4	a) Government bond	119.50	188.0	182.00	184.6	173.9	92.9	
5	b) Bank Deposit (Fixed)	130.00	96.5	92.00	100.00	317.5	441.0	
	c) Share/ Debenture	10.50	15.4	26.5	22.8	26.5	34.3	
	d) Loan & advances	111.50	114.5	116.5	260.2	139.6	139.6	
4.	Net income	35.21	37.4	36.3	41.9	50.4	48.8	38.59
5.	Dividends	8.5	8	7.0	7.0	7.0	6.25	(26.47)
6.	No. of unit holders	8299	9087	9871	2651	2840	2795	(66.32)
	a) Individual		-	-	2579	2747	2686	
	b) Institutional		-	-	72	93	109	

* Provision   Sources: SEBON, 2006/07

The citizen investment fund has shown substantial improvement in its performance in six years period taking from 2001/02 to 2006/07, the total amounts of units sold increased from Rs. 645.34 million to Rs. 1702.3 million. So the change is 163.82 percent. The increment is 2.64 times. The total amount purchased reached to 1004.1 million compared to Rs. 280.62 million in 2001/02. Investment has increased to Rs. 707.8 million in 2006/07 compared to is 371.50 million 2001/02 but bank deposit has a major dominance in investment. The net income has increased from is 35.21 million in 2001/02 to is 48.8 million on in 2006/07 and percentage increment in six year period is 38.59 percent. There is decline in dividend from 8.5 percent in 2001/02 to 6.25 percent in 2005/06. The unit holders are individual unit holders that were 8299 in 2001/02 which is increased to 9872 in 2003/04. But unit holders decreased to 2795 in 2006/07 and out of this 2686 are individual unit holders and 109 are institutional unit holders.

4.1.2 Performance of NCM Mutual Fund

In the fiscal year 2006/07, under the NCM mutual fund, 2002 total investment researched to is 393.4 million and the net assets value (NAV) increased to Rs. 31.40. In the fiscal year 2005/06, the total investment and the NAV were Rs. 210.7 million and Rs. 18.91 respectively. Total number unit holders of the fund by the end of the fiscal year 2006/07 were 2417 comprising 2397 individuals and 20 institutions.

The per unit market price of fund by the end of the fiscal year 2006/07 is 150 the performance of the fund over the years presented as below:

Table 4.2

Performance of NCM Mutual Fund

(Rs. in million)

S.N.	Particular	Fiscal Year					2006/07 change from base 2001/02
		2002/3	2003/4	2004/5	2005/6	2006/7*	
1	Investment	110.32	123.41	157.74	10.00	393.4	256.6^
	a) Share/Debenture	84.43	95.88	126.21	16.54	279.4	
	b) Government Bond	10.00	10.00	10.00	11.47	10.00	
	c) Bank Deposit	15.89	8.83	16.54	1.90	93.3	
2.	Net Income	2.138	9.50	11.47	0.81	23.2	985.13
	a) Dividend in Share	1.620	2.16	1.90	0.35	3.5	
	b) Interest in Government bond/Debenture	0.028	0.77	0.81	8.42	0.8	
	c) Bank Interest	0.490	0.61	0.35	144.93	3.9	
	d) Income from sale of share	-	5.96	8.42	10,000	14.9	
3.	Net Asset Value	105.69	118.20	144.93	14.49	314.0	
4.	Outstanding unit (in thousand)	10,000	10.000	10,000	10	10,000	
5.	NAV per unit	10.57	11.80	14.49	2559	31.40	197%
6.	Per unit market price (Rs.)	-	-	10	20	15	
7.	No. of unit holder	2882	2882	2559	2539	2417	197.07
	a) Institutional	18	19	20	20	20	(16.13)
	b) Individual	2863	2863	2539	2461	2397	
	Dividend (%)	5	5	5	5	10	100%

* Provision   Sources: SEBON, 2006/07

In five year period, investment in NCM mutual fund has increased substantially in five year period taking from 2002/03 to 2006/07 and investment is 3.57 to 2006/07 and investment is 3.57 times and there is major dominance of investment in shares and debentures. Investment in government bond bank deposit proved not so much significant. The increase in net income has multiple increase of Rs. 23.2 million 2006/07 compared to is. 2.138 million in 2002/03. The increment is 10.85 times. The major dominance is the income generated from sale of share, Net asset value (NAV) has increased to is 314.00 million and NAV per share has come to current level of is 31.40 per unit. The number of unit holders shows that institutional investors are just 20 but individual investors are 2397 and total unit holders are 2417 in 2006/07. Dividend from unit scheme has reached to 10 percent compared to 5 percent.

4.1.3 Investment Portfolio

The investment portfolio is very important for mutual fund schemes because the good choice of investment will make the scheme better performance. Investment a portfolio refers to the choice of investment in different types of securities e.g. shares debentures fixed income securities etc. Fixed income securities are those securities, which provide the fixed rate of return during the investing period. The investment in shares is more risky but it may be give high return. On the other hand, fixed deposit and investment in government bond is secure but it gives a low yield. There is not the standard rule to make the sound investment portfolio but one can say that it should be proper or optimum which minimize the risk and maximize the return.

Table 4.3

Investment Portfolio of NCM

(Rs. in million)

Fiscal year		Share/debenture	Government Bond	Bank deposit	Total
2003/04	in Rs.	95.88	10.00	8.83	114.71
	in %	83.58	8.72	7.70	100
2004/05	in Rs.	126.21	10.00	16.54	152.75
	in %	82.63	6.56	10.83	100
2005/06	in Rs.	183.53	10.00	13.68	207.21
	in %	88.57	4.83	6.60	100
2006/07	in Rs.	279.4	10.00	93.3	382.7
	in %	73	2.61	24.38	100

In reference to NCM mutual funds, NCM mutual fund 250 has already expired and as shown in table 4.3, in year of initiation of NCM mutual fund, 2059 (2003), it's total investment has increased from Rs. 114.71 million Rs. 382.7 million. The percentage investment of NCM in share/debenture 2003/2004 is 83. 58 and it has increased to 88.57 in 2005/06 and it has decrease to 73% in 2006/07 investment in government bond is highest in 2003/04 that is 8.72% and lowest in 2006/07 that is 2.61%. Investment in Bank deposit is lowest in 2005/06 that is 60.60 and highest in 2006/07 that is 24.38%. It is cleared that investment in share/ debenture and bank deposit is increasing and government bond is decreasing.

Table 4.4

Investment Portfolio of Citizen Unit Scheme

(Rs. in million)

Fiscal year		Government Bond	Bank Deposit	Share/ Debenture	Loan & Advance	Total
2002/03	in Rs.	188.0	96.5	15.4	114.5	414.4
	in %	45.37	23.29	3.71	27.63	100
2003/04	in Rs.	182.0	92.0	26.5	116.5	417.0
	in %	43.65	22.06	6.35	27.94	100
2004/05	in Rs.	184.6	100.0	22.8	260.2	567.6
	in %	32.52	17.61	4.02	45.84	100
2005/06	in Rs.	173.9	317.5	26.5	139.6	657.5
	in %	26.45	48.29	4.03	21.23	100.0
2006/07	in Rs.	92.9	441.0	34.3	139.6	707.8
	in %	13.13	62.31	4.80	19.72	100

As shown in table 4.4, the total amount of investment is increasing each year ranging from Rs. 414.4 million in F/Y 2002/03 to Rs. 707.8 million in the F/Y 2006/07. Major portion of its investment is in the security market, in which mostly are in the government securities rather than other securities i.e. Bank deposit share denture, loan & advance.

Thus, evaluating the investment portfolio of both the mutual funds, it is seen that their investment portfolio is dominated by investment in securities. Citizen unit scheme has concentrated its investment in government securities while NCM mutual fund, 2059 has focused on share. So, the CUS fund is risk averter and the NCM fund is risk seeker and the return of the NCM fund may be more fluctuate then the return of the CUS fund.

4.1.4 Performance Evaluation of Mutual Fund

I. Performance Evaluation of Mutual Funds in terms of management

This section raises the issue of manager's ability. The primary aim of the mutual fund managers is to indulge in the process of increasing the net asset value of the fund. It is ultimately the net asset value which is the real wealth of the shareholders. Thereby managers have to be always concern to the net asset value of the fund. One of the popular ways of measuring management performance is by comparing the yields of the managed portfolio with a market or with random portfolio.

Table 4.5

Portfolio Yield

(Rs. in million)

Fiscal year	Market Yield	NCM mutual fund	Citizen Unit Scheme
2002/03	-9.97	-17.94	8.36
2003/04	8.39	16.37	0.30
2004/05	29.11	27.03	2.25
2005/06	34.94	33.95	5.00
2006/07	76.81	66.58	11.99
Total	139.28	125.99	27.9
Avg. Yield	27.86	25.2	5.58
S.D. (6)	29.18	27.32	4.20
C.V.	1.05	1.08	0.75

Refer Annex c-2 & c-4

In table 4.5, it can be seen that the average yield of NMC mutual fund is less than market and the average yield of citizen unit scheme is also less than market return. The average yield of NCM mutual fund i.e.

25.2% and the average yield of citizen unit scheme i.e. 5.58 where the average return is 27.86. So, the NMC mutual fund's and citizen unit scheme fund's performance is not satisfactory in comparison to market. However, nearly measuring and comparing the return of portfolio is not enough. As it is known that higher return should go among with high risk, only after the consideration of relative risks of the portfolio the comparison of returns are meaningful. Considering the coefficient of variation, citizen unit scheme has least C.V. i.e. 0.75, referring that there is more uniformity is the yearly returns of the scheme. Where, C.V. of NCM mutual fund i.e. 1.08 is more than market i.e. 1.05. It shows the yearly return of NCM mutual fund is inconsistent than of market.

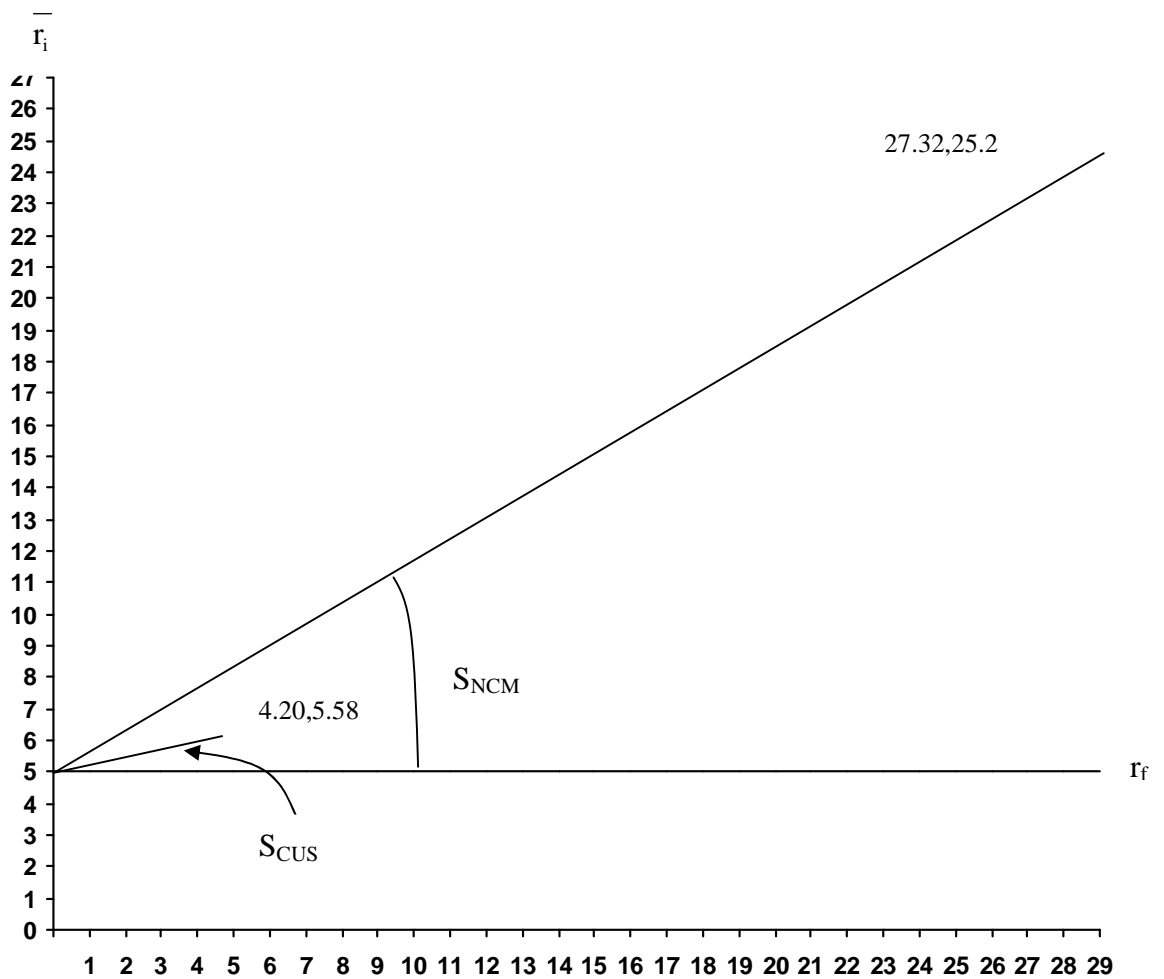## II.   Sharpe's Performance Measure for portfolios

The sharp index measures the risk premium of the portfolio relative to the total amount of risk in the portfolio i.e. both systematic as well as unsystematic. It is defines a single parameter portfolio performance index that is calculated from both the risk and return statistics. It measure the reward to variability treaded off.

Table 4.6

Sharp's Index

	NCM Mutual Fund	Citizen Unit Scheme
Average Return from portfolio	25.2%	5.58%
Standard deviation of Returns for portfolio	27.32	4.20
Risk Free rate of return	5%	5%
Sharp index $(s_i) = \dfrac{\bar{r_i} - r}{\dagger_i} \times 100$	73.91	13.81

Refer Annex C-3

Graphical Representation of Sharp Index

Considering the total risk, NCM is ranked as the better portfolio because its index is higher (73.91>18.81) then than of CUS mutual fund. Graphically as shown in the figure depicts Sharpe's index. S_i measure the slop of the line starting at the risk less rate R and running out to the asset I. Thus S_{NCM} grater than S_{CUS} indicates that NCM fund is a better performance then CUS mutual fund.

## III.   Treynor's performance measure for portfolios.

Treynor index measures the risk premium of the portfolio relating the amount of systematic risk (or beta) assumed in the portfolio.

Table 4.7

Treynor's Index

	NCM mutual fund	Citizen unit scheme
Average return from portfolio (n)	25.25%	5.58%
Beta coefficient of portfolio (B_i)	0.92	0.071
Risk free rate of return (R)	5%	5%
Treynor index $T_i = \dfrac{\overline{r_i} - r_f}{i}$	21.96	8.17

Refer Annex C-3 and c-4

Graphical Representation of the Treynor Index
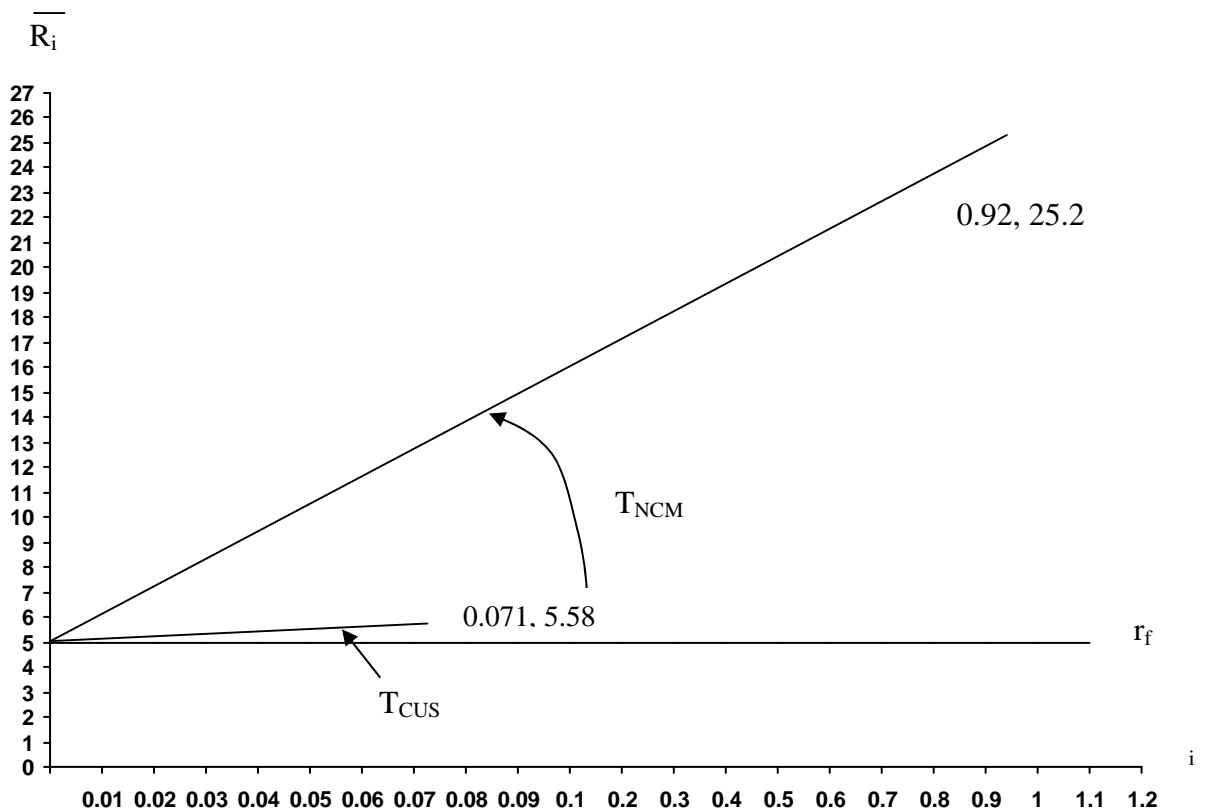
Considering the systematic risk only, i.e. undiversifiable risk, NCM mutual fund is ranked as the better portfolio because its index is higher i.e. 21.96 > 8.17 then that of CUS. Graphically as shown in figure depicts Treynor's index. T_i measures the slop of the line starting at the

risk less rate R and running out to the assets. As the figure demonstrates, NCM is more desirable then CUS because it has earn more risk premium per unit of systematic risk that is $T_{NCM} > T_{CUS}$

iv. Jensen's performance measure for portfolio

The Treynor and sharp indexes provide measures for raining the reactive performances of various portfolios, on a risk-adjusted basis. Jensen attempts to construct a measure of absolute performance on a risk adjusted basis that is a definite standard against which performance of various funds can be measured. This slandered is based on measuring the portfolio manager's predictive ability that is, his ability to earn returns through successful prediction of security prices which are higher than those which one would expect given the level of riskiness of ones.

Table 4.8

Jenson's Performance Measures

Portfolio	Alpha value Calculation $_p = \bar{r}_p - [r_f + (r_m - r_f)s_p]$	Risk Adjusted Alpha = $\dfrac{r}{s}$
NCM Mutual Fund	25.2-[5+(27.86-5)×0.92=-0.83]	-0.90
Citizen Unit Scheme	5.58-[5+(27.86-5)×0.071] = -1.04	-14.65

Refer Annex, C-4

As shown in table 4.7, the alpha value of the both fund is in negative so, both of the fund portfolio is over valued. Although the performance of NCM is better than that of CUS mutual fund. As higher risk alpha of NCM is grater than CUS.

Performance evaluation of mutual funds in terms of total risk, systematic risk and unsystematic

Table 4.9

Total risk, systematic risk and unsystematic risk of Mutual fund

	NCM Mutual		Citizen unit Scheme	
Variance (total risk)	746.25	100%	17.62	100%
Systematic risk ($s_i^2 r_m^2$)	720.68	96.57%	4.29	24.34%
Unsystematic risk	25.56	3.43%	13.33	75.65%

Refer Annex C-4

Forces that contribute to variation in return-price or dividend (interest) construct elements of risk. As shown in table 4.9, considering the total risk, NCM has 96.57% systematic risk and 3.43% unsystematic risk. NCM has high percentage of systematic risk due to high market variance. CUS has 24.34% systematic risk and 75.65% unsystematic risk.

Total risk consists of systematic risk and unsystematic risk. Systematic risk can not be reducing with diversification and unsystematic risk can be reduced to zero with proper diversification.

4.2   Presentation and Analysis of Primary Data

This chapter is dedicated to the analysis of primary data. For primary data, the questionnaire has been designed and distributed to stockholders, Investor and financial executives. the basic purpose of the distributing the questionnaire was to obtain a knowledge on the various aspect of the Mutual fund, especially the view point of financial executive and investor as how to they regard the mutual fund in a capital market.

Questionnaires were distributed among various investors, financial executive, and others who have knowledge of mutual fund. The main

purpose of primary data collection is to fiend out the present condition of mutual fund in Nepal and its past and present performance and future prospects etc.

Following is the list of number of respondents.

Classification of Respondents

Type of Respondents	No. of Respondent	Percentage
Financial Executive	13	25
Investors	18	34.62
Stock Brokers	11	21.15
Others.	10	19.23
Total	52	100

Source: Personal survey (2008)

1.   Present condition of mutual fund in Nepalese financial market

The main purpose of this question is to get the present condition of mutual fund in Nepal. The viewpoints of the different respondents are presented as follows:

Response	Financial Executive	Investor	Stock Broker	Other	Average Percentage
Good	10%	8%	7%	5%	8%
Moderate	60%	66%	69%	75%	67%
Bad	30%	26%	24%	20%	25%
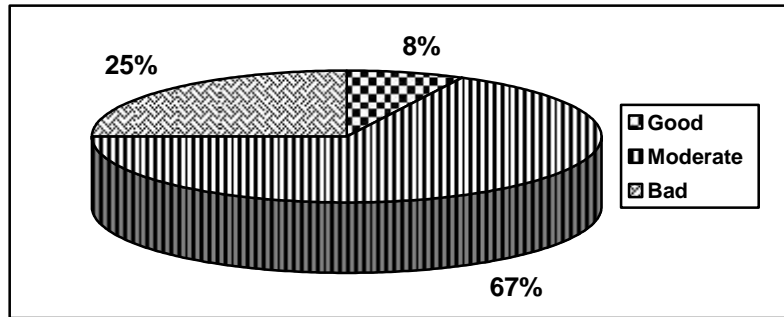
From the above figure we can say that the present condition of mutual fund in Nepal is moderate i.e. in overall 67% of respondents believes that it is in moderate condition and 25% respondents seems It is in good condition moderate means It may be either go up or go down.

2. Present managerial skills on mutual fund companies

Managerial skills are directly related to the performance of Mutual Fund Company. A company could be ruin smoothly if it gets the skill manager. The successes of such company are depending on an efficient manager. A dynamic manager with energetic personality can lead the company to its success. So, this question is deal with managerial skills.

| Response	Financial Executive	Investor	Stock Broker	Other	Percentage of respondents
Excellent	8%	12%	8%	12%	10%
Good	22%	17%	25%	16%	20%
Fair	50%	60%	52%	58%	55%
Poor.	20%	11%	15%	14%	15%
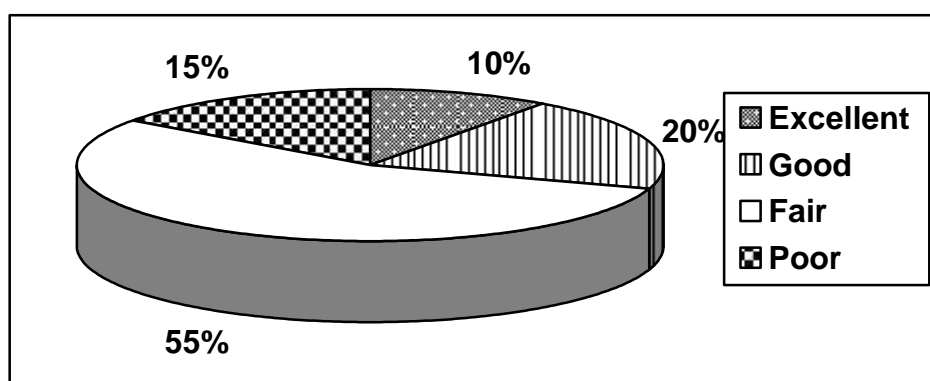
According to the respondents rated that managers has fair skills. Only 20% of them rated good and 10% say excellent. Remaining 15% of them rated in poor. So we can say that present managerial skills on mutual fund are not satisfactory. They need good education and well training for further Improvement.

3. **The sectors of Investment that NIDC Capital market and CUS should invest**

This question tries to find out that sectors which should give that priority for investment of the money collected by mutual fund. In order to get higher return a good sector of Investment should be selected and this will help to find out.

| Response	Financial Executive	Investor	Stock Broker	Other	Average % of respondents
Share / debenture	25%	15%	22%	18%	20%
Government bond	25%	35%	32%	28%	30%
Special deposits	30%	45%	35%	30%	35%
Loan & advance	24%	5%	11%	24%	15%
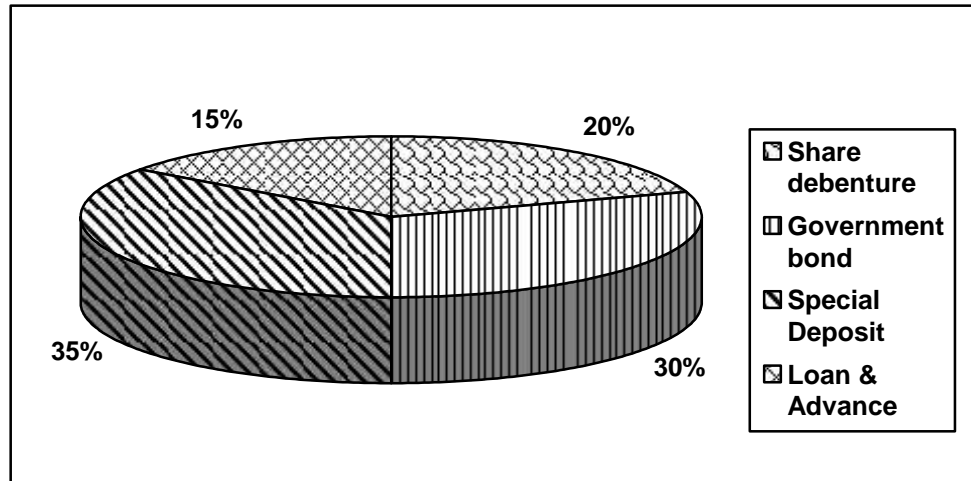
By the average percentage of the respondents, it is clear that most of them select the sector of bank deposit and Government Bond. It may be less risky. Only few of them rated in share debenture and loan & advance. This shows that the Investor wants their investment in less risky area.

4.   The basic external problems facing by mutual fund companies

This question is related to the operating environment of the mutual fund companies the surrounding atmosphere is very crucial for the survival of any kinds of organization. This question try to find out what kinds of external problems are facing by the mutual fund companies.

Response	Financial executive	Investor	Stock Broker	Other	Average Percentage
Political environment	28%	31%	23%	38%	30%
Social norms & values	3%	66%	12%	7%	7%
small capital market	65%	58%	52%	45%	55%
Other financial Institution	4%	5%	13%	10%	8%
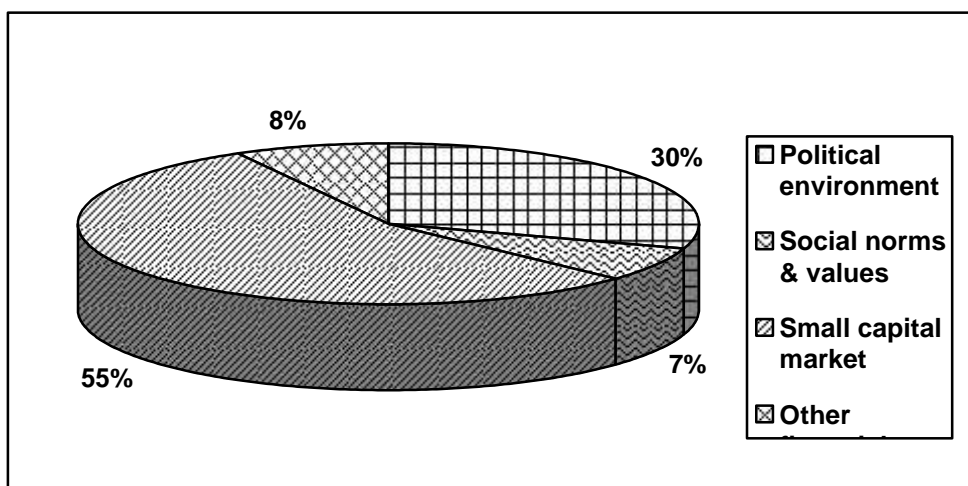
According to the average percentage of the respondent the basic external problems facing by mutual fund companies are small capital market, about 55% of the average respondents agree with it. After that 30% of them thanked it is due to the political environment and 7% and 8% of respondent believes that it is due to social norms & values and other financial institution respectively.

5. Performance of NCM Mutual Funds

In order to get an overall view towards performance of NCM Mutual fund, the questionnaire has been made if its performance is above par, in par, or below par.

Response	Financial Executives	Investors	Stock	Other	Average Percentage
Above par	62%	56%	52%	50%	55%
In par	38%	44%	47%	47%	44%
Below par	0%	0%	1%	3%	1%
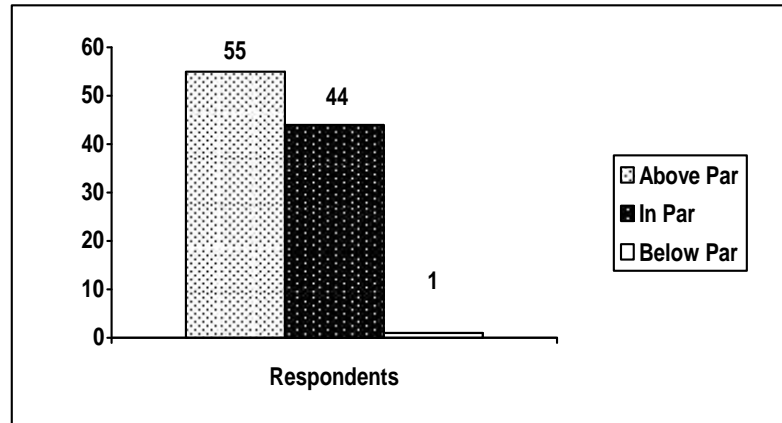
In an average 55% of the respondent indicated that the performance of NCM mutual fund is above par 44% of them indicated that it is in par and only 1% of the respondent Indicated that It is below par. The figures show that the most of the financial executive and Investor thinks that the funds have average performance.

6   Performance of citizen unit scheme

Though by the help of secondary data calculation of the performance of both the mutual fund companies has been done. Here it just tries to explore the respondent's views. It is presented in figure

Response	Financial Executive	Investors	Stock Broker	Other	average % of respondents
Above Par	51%	49%	45%	47%	48%
In par	48%	44%	50%	38%	45%
Below	1%	7%	5%	15%	7%
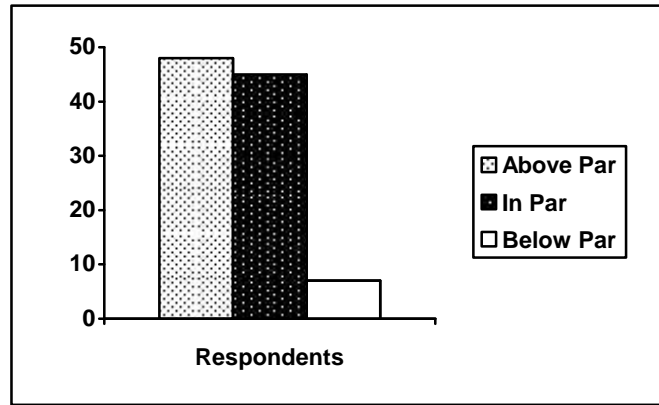
From the average view point of the respondent It is shows that 48% of them believed that the performance of citizen unit scheme is above par, 45% of them believed that It is in par and 7% of respondent thinks that it is below par. so, we can say that the performance of CIT has not better performance.

7.   The risk level in investing in current Mutual fund scheme.

This question has been forwarded to know the risk level in Investing in current Mutual fund scheme although to evaluate the risk level is very hard. This question only tries to compare the risk of mutual fund Company with market.

Response	Financial executive	Investors	Stock Brokers	Other	Average % of respondents
High	7%	9%	11%	13%	10%
Moderate	65%	62%	55%	46%	57%
Less	25%	27%	33%	35%	30%
No risk	3%	2%	1%	6%	3%
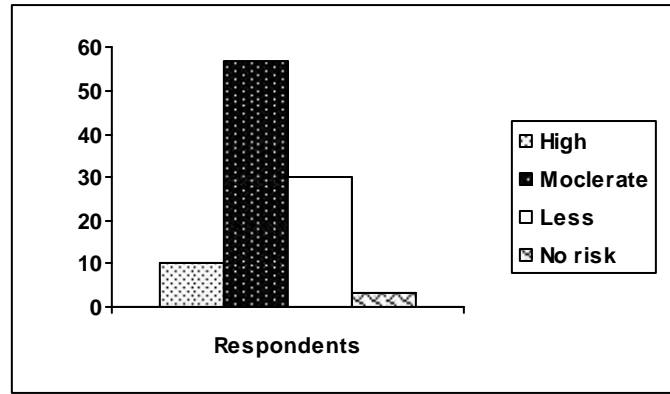
The figure shows that it is not so risky. It is Indicates that the level of risk is slightly moderate then market. 30% of respondent found It is less risky then market and even no risk said by 3% of respondent. In overall It is safe to Invest in mutual funds which is one of the prospectus of the mutual fund companies.

8.   Potentiality of Mutual Fund in Nepalese Capital Market

This question tries to know weather there is any potentiality for Investment companies like mutual fund in context to Nepalese capital market.

Responds	Financial Executive	Investor	Stock Brokers	Others	Average % of respondents
Good	66%	45%	65%	56%	58%
Moderate	30%	49%	25%	32%	34%
Bad	4%	6%	10%	12%	8%
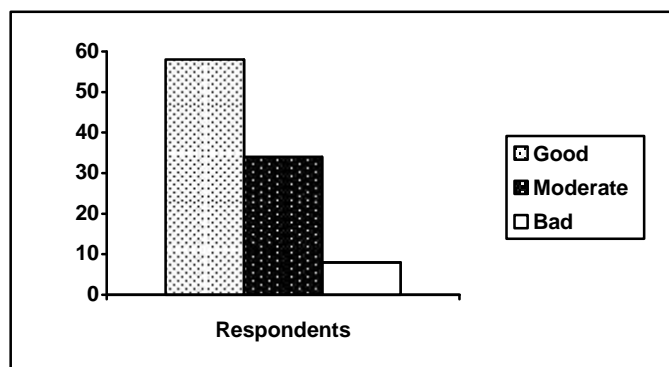
In response to the question, in average 58% of the respondents believe that potentiality of mutual fund in Nepalese capital market is good. 34% of them believed that it moderate and 8% of them beloved that it is bad. On the basis of above figure we can say that the capital market of the country has the ability to sustain mutual fund.

9. The most effective means to create awareness about mutual funds

From previous thesis it is found that Nepalese people do not have adequate knowledge of mutual fund. So, this question tries to find out the better way to create awareness to the people about mutual fund. The result found is shown below.

Response	Financial Executive	Investor	Stock Brokers	Other	Average % of respondents
Newspaper advertisement	42%	32%	30%	36%	35%
Electronic medial	34%	49%	46%	31%	40%
Personal Contact	4%	4%	2%	10%	5%
Hoarding board	20%	15%	22%	23%	20%
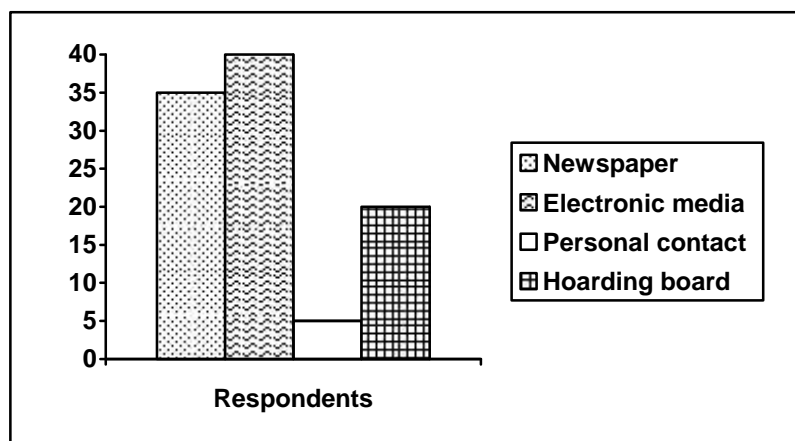
From the above figure it is found that advertisement thought electronic medical is more effective media to create awareness about mutual fund, 35% of respondents say newspaper advertisement is more effective where as 5% and 20% of the respondents said personal contact and hoarding board respectively. So, it is found that to create the awareness about mutual fund electronic media as well as news paper is the best option, which can directly attract the people.

10.   Steps to be taken for the development of mutual fund in Nepal

In this questionnaire, the main purpose of this question is to get overall view point of the respondent about the steps that is useful to development of mutual fund in Nepal.

Response	Financial Executive	Investor	Stock Brookes	Other	Average % of respondents
Awareness Programs in public	47%	35%	47%	39%	42%
Government support	13%	20%	28%	31%	23%
Development of mutual fund market	40%	45%	25%	30%	35%
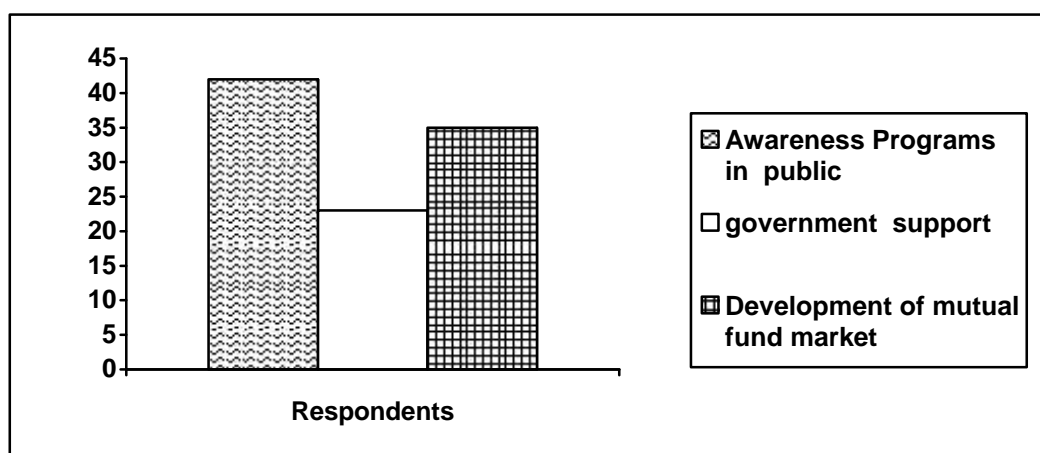
From the above figure it is conclude that awareness programs in public are more effective steps to be taken for the development of mutual fund in Nepal because in average 42% of the respondent believed in It. Among them 23% of respondent thinks that government support is need and other 35% of respondent thinks that mutual fund market should developed.

CHAPTER-V
SUMMARY, CONCLUSION & RECOMMENDATIONS

5.1   Summary

In Nepal concept of mutual fund has been introduced from last decade. Citizen Investment Trust (CIT) was established in 2047 where as NIDC capital markets ltd introduced concept of mutual fund lunching NCM first mutual fund 2050. Citizen investment trust is incorporated under citizen investment trust act 1990, with a view to expanded investment opportunities by encouraging general public to save capital market and to bring the dynamism in the development of capital market. Similarly, NCM mutual fund was started in Ashad 19, 2050 to Ashad 32, 2058. The fund units are sold at par value of Rs10 and with total 52, 50,000 units. Initially, the fund was traded as open and fund but later it was turned into closed –end fund.

Mutual funds are the company having objective to collect money from the small and medium investor to make investment in a professional and efficient way and distribute the returns earned thereon. Basic function of mutual fund is to mobilize unproductive capital to the productive sectors yielding high return. In other countries mutual fund companies have been doing very well. Various schemes has been introduce and yielded very high return. However, in Nepalese contest it has yet to prove it. With the past record and present analysis shows that the NCM mutual fund and CUS mutual fund have been under performed. Hence, a depth study and research have to be made on these sectors.

This research is amide at studying the performance of mutual fund in Nepalese capital market. The main purpose is to find weather the fund has under or out performed. The analysis of risk and return are the main

measurement tools. For this various financial tools like average return, NAV, beta coefficient risk measuring tools have been used, similarly, the statistical measurement like standard deviation, variance, covariance are also used for analysis and also others various available and relative literature have been reviewed, to have the basis knowledge and understanding of the concept of mutual funds, types, advantages and disadvantage, history and its scenario in Nepal. The review of the past studies has familiarized the researcher with developments contributed on the subject matter and with the various models used to evaluate the performance of portfolio such as sharp measure, Treynors measure, Jenson Alpha etc.

The study based on empirical and analytical research design with the help of both primary as well as secondary data. It seeks to assess the opinions, behaviors, or the characteristics of the given population i.e. NCM mutual fund and citizen unit scheme. Various statistical tools and financial tools have been used for analysis. In terms of market capitalization, total public issue approval and investment portfolio of mutual fund, role of mutual funds in the security market has been analyzed. The role of closed end fund has also been evaluated on the basis of its trading in NEPSE. While the amount of outstanding units and repurchased units has been considered in case of opened end fund.

Performance Evaluation

In order to evaluate performance of both mutual funds, the sharp index, Treyner index Jenson Alpha used. Investment portfolio of both company have also been analyzed. These figures indicate a very poor condition of the funds performance. Hence, it can be concluded that the funds have been under performed.

The above facts and figure are found out through the analyzed of secondary data which collected from NIDC, CIT and NEPSE.

Summary of Analysis of Primary Data

The primary data is collected from the various financial sources using questionnaires method. During the survey, many financial executives, investors, broker and the concerned authorities are approached to get their opinions.

- The present financial performance of both mutual funds at not satisfactory.

- Mutual finds can substantially contribute in the development of the capital market.

- According to the financial executives, NEPSE, capital market has grown sufficient to sustain investment companies including to mutual fund whereas general investors not satisfied with the fact.

- Mutual find scheme introduce by CIT seems not clear to the public. That is why the fund could not attract substantial investors towards it.

- The major causes for the fund not being successful are lack of financial knowledge, passive investment strategy, inefficient management etc.

- The major sectors of investment for the fund are investment in shares of institution having stable returns industrial loan, government bond and securities etc.

- In order to development of mutual fund in Nepal, amendment of government policies regarding mutual fund is crucial.

5.2   Conclusion

The main objectives of the study are to performance evaluation of mutual funds in Nepal. It tries to analyzes the prospects and problems of mutual fund during the period studied. The major findings from the study are mentioned in chapter IV. Evaluating the investment portfolio of both the mutual funds, it is seen that their investment portfolio is dominated by investment in securities. Citizen unit scheme has concentrated it's investment in government securities while NCM mutual funds, 2059 has focused on share. So, the CUS fund is risk averter and the NCM fund is risk seeker so the return of the NCM fund may be more fluctuate the return of the CUS fund. Between NCM mutual fund, 2059 and citizen unit scheme, in terms of liquidity, management team and investment strategy NCM mutual fund, 2059 is stronger, but considering risk, citizen unit scheme is better.

The analysis of primary as well as secondary data required various facts about the mutual funds present condition in Nepalese capital market. From the financial and statistical analysis of the data, it is obvious that NCM mutual fund and CUS could not perform efficiently. For the research, investment portfolios of both NCM mutual fund and CUS have been done from the report published by the NIDC and CIT.

From the analysis of data, it is found that still there are lots of things to be done in mutual fund business. Mutual fund's management should adopt dynamic investment strategy and efficient portfolio management. The fund should try to invest most of its assets into the primary shares of the bank and other financial institutions for the possibility of capital gain in addition to the current yields. The portfolio manager of the funds should be made dynamic. It should restructure the

portfolio by removing the securities yielding low return with the securities that yield high return.

Finally, from the overall analysis it seems that an overall practice of mutual fund in Nepal is not in satisfactory condition. Investors are not so much interested towards the mutual fund because of less return and high risk in comparison to the market. That's why investing in share is better then the fund. One of the major reasons for the failure of mutual fund might be due to the lack of information and efficient decision making.

5.3   Recommendations

Based on the conclusion of the study various suggestions have been concluded as follows.

Recommendations to the Government

Government has not issued specific directives on mutual fund related activities; however the company carrying mutual fund activities may design specific norms and self-regulatory provisions may include as follows:

- There is a lack of separate laws and policies regarding mutual fund companies. So the government should formulate separate laws and policies regarding mutual fund.
- Maintain stick standards on leveraging so that funds do not take undue risks with funds assets. Effective and efficient supervision should be made by securities exchange board of Nepal (SEBO) on the loan portfolio management of mutual fund on behalf of its stockholders.

- For encouraging the better corporate culture in the mutual fund company, the government should established the corporate governance norms and should ensure it is well practiced in the company.

- For the transparency of the activities of the mutual fund with regard to accounting and auditing practices, the report and recommendation from the office of auditor general should be implemented effectively.

Recommendations to the mutual fund companies:

- From the secondary data analysis it is shown that both the mutual funds company are investing more fund in share debenture and government securities i.e. they do not diversity their investment properly. It will be much better to construct portfolio innovate in investment and make appropriate policies and strategies in order to expand the mutual fund company.

- The research shows that the mutual fund companies are concentrating in capital only so, it will be beneficial to them if they expended in its strength geographically and they must reach to the rural areas. Where many small savings investors are waiting to come to the market.

- Many investors are not satisfied with the management as far concerning the skilled man power, training programs ,human resources etc. so there should be conducted the training, workshop, seminars, regularly to the manager and staff of mutual fund companies and it will be also helpful if such training is given to the investors too.

Recommendations to the Investor

The major contributor to the investor's ability to build wealth has been its adherence to a set of basic principles concerning investor's behavior that any individual can learn and practice. Investor should make long term perspective, buying and selling rationally, and using high-quality sources of information when making investment decisions. Therefore investor should making investment decisions. Therefore investor should gain much financial knowledge about the mutual fund.

- Investors are highly encouraged to make financial planning decisions on reliable information.

- It is found that investors are not aware of mutual fund companies; they should learn thoroughly the prospectus of the mutual fund companies before investing.

- Mutual fund companies have done very well at international level because it has been handle professionally and efficiently. Therefore, it could be better if Nepalese economy follow suit.

- In order to get the higher return investors should practice the active investment strategy.

- Mutual fund reduces risk by diversification, so it is safe investment then other investment alternatives.

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QUESTIONNAIRE

Dear Respondents,

I am a M.B.S. final year student. The M.B.S. Program of the faculty of management, T.U., requires the students to write a thesis, so, I am conducting a survey about mutual funds performance in Nepal. It would be very helpful for me if you fill up this questionnaire.

Thank you

Name:

Position:

Institution:

Contact No.:

1. What is the present condition of mutual in Nepalese financial market?

   a) Good   b) Moderate   c) Bad

2. What do you think about present managerial skills on mutual fund companies in Nepal?

   a) Excellent   b) Good   c) Fair   d) Poor

3. In which sectors of investment that NIDC capital market and CUS should investment?

   a) Share debenture   b) Government Bond

   b) Special deposit   d) Loan and advance

4. The Basis external problem facility by mutual fund companies are:

   a) Political environment   b) Social norms & values

   c) Small capital market   d) other financial institution

5. How do you rate the performance of NCM mutual fund in the context of Nepalese capital market?

   a) Above par   b) In par   c) Below par

6. How do you rate the performance of CUS mutual fund in context of Nepalese capital market?

   a) Above par   b) In par   c) Below par

7. What is the risk level in investing in current mutual fund scheme?

   a) High   b) Moderate   c) less   d) No risk

8. How do you think the potentiality of mutual fund in Nepalese capital market?

   a) Good   d) Moderate   c) Bad

9. What will be the most effective means to create awareness about mutual funds?

   a) News paper advertisement   b) Electronic media

   c) Personal contact   d) Hoarding board

10. What steps should be taken for the development of mutual fund in Nepal?

    a) Awareness Program in Public   b) Government Support

    c) Development of mutual found market

NCM MUTUAL FUND

Rs. in million

Year	Total Investment	Investment in Share/Debenture	Investment in share debenture	Average investment
2003/04	114.71	95.88	83.58	81.95
2004/05	152.75	126.21	82.63	81.95
2005/06	207.21	183.53	88.57	81.95
2006/07	382.7	279.4	73.01	81.95

Calculation of Average investment, standard deviation and coefficient of variation in investment in share/debenture.

Year	% investment in share/debenture X	Average Investment $\overline{X}$	$(X-\overline{X})^2$	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$		C.V.
2003/04	83.58	81.95	2.66	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$		
2004/05	82.63	81.95	0.4624			
2005/06	88.57	81.95	43.82			
2006/07	73.01	81.95	79.92	=31.72	5.63	0.069
Total	327.79		126.86			

Calculation of yearly investment in government bond and average investment

Year	Total Investment	Investment in government bond	% investment in government bond.	Average investment
2003/04	114.71	10.00	8.72	
2004/05	152.75	10.00	6.55	
2005/06	207.21	10.00	4.83	5.57
2006/07	382.7	10.00	2.61	

Calculation of Average investment, standard deviation and coefficient of variation in investment in Government Bond

Year	% investment in share/debenture X	Average Investment $\overline{X}$	$(X-\overline{X})^2$	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$		C.V.
2003/04	8.72	5.57	9.92			
2004/05	6.55	5.57	0.96			
2005/06	4.83	5.57	0.55	5.05	2.5	0.45
2006/07	2.61	5.57	8.76			
Total	22.71		20.19			

Calculation of yearly investment in bank deposit and average investment

Year	Total Investment	Investment in Bank Deposit	% investment in Bank Deposit	Average investment
2003/04	114.71	8.83	7.69	
2004/05	152.75	16.64	10.83	
2005/06	207.21	13.68	6.60	12.38
2006/07	382.7	93.3	24.38	

Calculation of Average investment, standard deviation and coefficient of variation in investment in bank despot.

Year	% investment in share/debenture X	Average Investment $\overline{X}$	$(X-\overline{X})^2$	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$	∂	C.V.
2003/04	7.69	12.38	22			
2004/05	10.83	12.23	2.40	50.45	7.10	0.57
2005/06	6.60	12.38	33.41			
2006/07	24.38	12.38	144			
Total						

ANNEX C-2

CUS MUTUAL FUND

Calculation of Yearly percentage investment and average investment in share debenture

Rs. In million

Year	Total Investment	Investment in Share/Debenture	Investment in share debenture	Average investment
2003/04	414.4	15.4	3.72	
2004/05	417.0	26.5	6.35	
2005/06	567.6	22.8	4.02	4.59
2006/07	657.5	26.5	4.03	

Calculation of standard deviation and coefficient of variation of share/debenture

Year	% investment in share/debenture X	Average Investment $\overline{X}$	$(X-\overline{X})^2$	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$	∂	C.V.
2003/04	3.72	4.59	0.76			
2004/05	6.35	4.59	3.09	0.95	0.21	
2005/06	4.02	4.59	0.32			
2006/07	4.03	4.59	0.31			
Total	4.85	4.59	0.07			

Calculation of yearly investment in government bond and average investment

Year	Total Investment	Investment in government bond	% investment in government bond.	Average investment
2002/03	414.4	188.0	45.37	
2003/04	417.0	182.0	43.65	
2004/05	567.6	184.6	32.52	32.22
2005/06	657.5	173.9	26.45	
2006/07	707.8	92.9	13.13	

Calculation of standard deviation and coefficient of variation of government bond.

Year	% investment in share/debenture X	Average Investment $\overline{X}$	$(X-\overline{X})^2$	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$	∂	C.V.
2003/04	45.37	32.22	172.92			
2004/05	43.65	32.22	130.64			
2005/06	32.52	32.22	0.09	140.27	11.84	0.37
2006/07	26.45	32.22	33.29			
Total	13.13	32.22	364.43			

Calculation of yearly percentage investment and average investment in bank deposit

Year	Total Investment	Investment in Bank Deposit	% investment in Bank Deposit	Average investment
2002/03	414.4	96.5	23.29	
2003/04	417.0	92.0	22.06	
2004/05	567.6	100.0	17.62	34.71
2005/06	657.5	317.5	48..29	
2006/07	707.8	441.0	62.31	

Calculation of standard deviation and coefficient of variation in loan bank despot.

Year	% investment in share/debenture X	Average Investment $\overline{X}$	$(X-\overline{X})^2$	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$	∂	C.V.
2002/03	23.29	34.71				
2003/04	22.06	34.71				
2004/05	17.06	34.71	305.85	17.49	0.504	
2005/06	48.29	34.71				
2006/07	62.31	34.71				

Calculation of yearly percentage investment and average investment in bank deposit

Year	Total Investment	Investment in loan & advance	% investment in loan & advance	Average investment
2002/03	414.4	114.5	27.63	
2003/04	417.0	116.5	27.94	
2004/05	567.6	260.2	45.84	28.47
2005/06	657.5	139.6	21.13	
2006/07	707.8	139.36	19.72	

Calculation of standard deviation and coefficient of variance of loan and advance

Year	% investment in share/debenture X	Average Investment $\overline{X}$	$(X-\overline{X})^2$	$\dagger^2 = \dfrac{\Sigma - \overline{X}}{N}$	∂	C.V.
2002/03	27.63	28.47	0.71			
2003/04	27.94	28.47	0.28			
2004/05	45.84	28.47	301.71	86.34	9.29	0.33
2005/06	21.23	28.47	52.42			
2006/07	19.72	28.47	76.56			

ANNEX C-3

Calculation of Holding Period Return for NCM Mutual Fund

Year	NAV (is)	Dividend %	Calculation	HPR
2002/03	10.57	5	(10.57-13.49)+05/13.49	-17.94
2003/04	11.80	5	(11.80-10.57)+5/10.57	16.37
2004/05	14.49	5	(14.49-11.80)+11.8033.95	27.03
2005/06	18.91	5	(18.91-14.49)+5/14.49	33.95
2006/07	31.40	10	(31.40-18.91)+10/18.91	66.58
Total				125.99

Note: NAV of NCM in 2001/02 were 13.49

Calculation of holding period return for CUS mutual fund

Year	NAV (is)	Dividend %	Calculation	HPR
2002/03	102.40	8	(102.40 - 101.88) + 8/ 101/88	8.36
2003/04	95.71	7	(95.71-10240) +7/102.40	0.30
2004/05	901.86	7	(90.86-95.71)+7/95.71	2.25
2005/06	88.40	7	(88.40-90.86)+7/90.86	5.00
2006/07	88.40	6.25	(92.75-88.40)+6.25+6/25/88.40	11.99
Total	92.75			27.9

Note: NAV of CUS in 2001/02 were 101.88

Calculation of Market return (NEPSE index)

Year	Index	Calculation	Calculation
2002/03	204.86	(204.86-227.54)/227/54	-9.97
2003/04	222.04	(222.04-204/86)/204/86	8.39
2004/05	286.67	(286.67-222.04)/222.04	29.11
2005/06	386.83	(386.67)/286.67	34.94
2006/07	683.95	(683.95-386.83)/383.83	76.81

Note: Index for 2001/02, 227.54

ANNEX C-4

Calculation of Mean S.D and C.V. of NCM Mutual Fund

Year	HPR$_{NCM}$ %	(HPR$_{NCM}$-$\overline{HPR}$ $_{NCM}$)^2
2002/03	-17.94	$(-17.94-25.2)^2$ =1861.50
2003/04	16.37	$(16.37-25.2)^2$ = 77.97
2004/05	27.03	$(27.03-25.2)^2$ =3.35
2005/06	33.95	$(33.95-25.2)^2$ =76.56
2006/07	66.58	$(66.58-25.2)^2$ = 1712.30
Total	126	(HPR$_{NCM}$-$\overline{HPR}$ NCM)^2 = 3731.23

$$\overline{HPRE}_{NCM} = \frac{\Sigma HPR_{NCM}}{N} = \frac{126}{5} = 25.2$$

$$\text{Variance } (6_{NCM}{}^2) = \frac{\Sigma(HPR_{NCM} - \overline{HPR}_{NCM})^2}{N} = \frac{3731.23}{5} = 746.25$$

$$\text{Standard deviation } (\sigma_{NCM}) = \sqrt{\dagger_{NCM^2}} = \sqrt{746.25} = 27.32$$

$$\text{Coefficient of variation (C.V. }_{NCM}) = \frac{\dagger_{NCM}}{HPR_{NCM}} \frac{27}{25.2} = 1.08$$

Calculation of Mean S.D. & C.V. of CUS Mutual Fund

Year	HPR_{CUS}	$(HPR_{CUS} - HPR_{CUS})^2$
2002/03	8.36	$(8.6-5.58)^2 = 7.73$
2003/04	0.30	$(0.30-5.58)^2 = 27.88$
2004/05	2.25	$(2.25-5.58)^2 = 11.08$
2005/06	5.00	$(5-5.58)^2 = 0.3364$
2006/07	11.99	$(11.99-5.58)^2 = 41.08$
Total	27.9	$(HPR_{CUS} - \overline{HPR}_{CUS})^2 = 88.11$

$$\overline{HPRE}_{CUS} = \frac{\Sigma HPR_{CUS}}{N} = \frac{27.9}{5} = 5.58$$

$$\text{Variance } (\sigma_{CUS}{}^2) = \frac{\Sigma(HPR_{CUS} - \overline{HPR}_{CUS})^2}{N} = \frac{88.11}{5} = 17.62$$

$$\text{Standard deviation } (\sigma_{CUS}) = \sqrt{\dagger_{CUS}{}^2} = \sqrt{17.62} = 4.20$$

$$\text{Coefficient of variation (C.V }_{CUS}) = \frac{\dagger_{cus}}{HPR_{CUS}} = \frac{4.20}{5.58} = 0.75$$

Calculation of return on NEPSE; standard deviation, and coefficient of variation.

Year	HPR NEPSE	$(HPR_{NEPSE} - \overline{HPR}_{NEPSE})^2$
2002/03	-9.97	$(-9.97-27.86)^2 = 431.11$
2003/04	8.39	$(8.39-27.86)^2 = 379.1$
2004/05	29.11	$(29.11.27.86)^2 = 1.56$
2005/06	34.94	$(34.94-27.86)^2 = 50.13$
2006/07	76.81	$(76.81-27.86)^2 = 2396.1$
Total	139.28	$(HPR_{NEPSE}-\overline{HPR}_{NEPSE})^2 = 4258$

$$\overline{HPRE}_{NEPSE} = \frac{\Sigma HPR_{NEPSE}}{N} = \frac{139.28}{5} = 27.86$$

$$\text{Variance } (\sigma_{NEPSE}{}^2) = \frac{\Sigma(HPR_{NEPSE} - \overline{HPR}_{NEPSE})^2}{N} = \frac{4258}{5} = 851.6$$

$$\text{Standard deviation } (\sigma_{NEPSE}) = \sqrt{\dagger_{NEPSE}{}^2} = \sqrt{85.6} = 29.18$$

$$\text{Coefficient of variation (C.V.}_{NEPSE}) = \frac{\dagger_{NEPSE}}{\overline{HPR}_{NEPSE}} = \frac{29.18}{27.86} = 1.05$$

Calculation of Conversation of CUS and NCM with NEPSE

Year	$(HPR_{CUS}-\overline{HPR}_{CUS}) (HPR_{NEPSE}-\overline{HPR}_{NEPSE})$	$(HPR_{NCM}-\overline{HPR}_{NCM}) (HPR_{NEPSE}-\overline{HPR}_{NEPSE})$
2002/03	(8.36-5.58) (-9.97-27.86)=105.16	(-17.0-25.2) (-9.97-27.86) =1631.98
2003/04	(0.30-5.58) (8.39-27.86)=102.8	(16.37-25.2) (8.27.86) =178.15
2004/05	(225-5.58) (29.11-27.86)=-4.11	(27.03) (29.11-27.86) =2.29
2005/06	(5-5.58) (34.94-27.86)=-4.11	(33.95-25.2) (34.94-27.86) =2025.55
2006/07	(11.99-5.58) (76.81-27.86)=313.77	(66.58-25.2) (76.81-27.86) = 2025.55
Total	$\Sigma(HPR_{CUS}-\overline{HPR}_{CUS}) (HPR_{NEPSE}-\overline{HPR}_{NEPSE})=303.14$	$\Sigma (HPR_{NCM}-\overline{HPR}_{NCM}) (HPR_{NEPSE}-\overline{HPR}_{NEPSE}) = 3899.92$

$$COV_{CUS, NEPSE} = \frac{\Sigma(HPR_{CUS} - \overline{HPR}_{CUS})(HPR_{NEPSE} - \overline{HPR}_{NEPSE})}{N}$$

$$= \frac{303.14}{5} = 60.61$$

$$COV_{NCM, NEPSE} = \frac{\Sigma(HPR_{NCM} - \overline{HPR}_{NCM})(HPR_{NEPSE} - \overline{HPR}_{NEPSE})}{N}$$

$$= \frac{3899.92}{5} = 779.98$$

Calculation of Beta of each fund Beta of CUS mutual fund

$$\beta_{CUS} = \frac{Cov_{CUS,NEPSE}}{\dagger_{NEPSE}^{2}} = \frac{60.69}{851.6} = 0.071$$

Beta of NCM mutual fund

$$\beta_{NCM} = \frac{Cov_{cos,NEPSE}}{6_{NEPSE}} = \frac{779.98}{851.6} = 0.92$$

Market of sensitivity analysis

Average return on CUS fund = 5.58%

Average return on NCM fund = 25.2%

Average return (NEPSE) = 27.86%

Risk Free Rate of Return $(r_{CUS}) = R_f + [(r_m) - R_f]\beta cus$

$$= 5 + (27.86-5)\ 0.071$$

$$= 6.62$$

CUS is over valued because its required rate of return is greater than average return

Required rate of return

$$(r_{NCM}) = Rf + [(r_m)-Rf]\ \beta_{NCM}$$

$$= 5 + [27.86-5] \times 0.92$$

$$= 26.12$$

NCM fund is over valued because its required rate of return is grater than average rate return.