

Chapter – One

INTRODUCTION

1.1 General Background

Nepal has adopted financial liberalization policy from the beginning of 1980s by opening financial markets to private sectors and inviting foreign partnership in financial sectors. As a result positive impact has been experienced in development of financial market. The revolutionary development in the information and communication technologies have made possible the modern means of communication to bring to the doorstep and common people. Liberalization of the market has made possible to attract foreign investment and encouraged participation of private sector for the penetration of information and communication technology in Nepal.

Nepal government has already implemented the Telecommunication Policy 2060 to adopt the policy of liberalization in telecommunication sector. An independent and autonomous regulatory body for the development of telecommunication, Nepal Telecom Authority (NTA) was established in March 4, 1998. After establishment NTA has issued one hundred thirty-nine licenses for providing different telecommunication services within the country. But so far only two are operation in urban and other is in rural besides Nepal Doorsanchar Company Limited (Nepal Telecom, abbreviation-NTC). Nepal Telecom, now out of the monopoly era with entry of United Telecom Limited & Spice Nepal Pvt. Ltd. is focusing more on management and marketing issues (Basic Telephone, Mobile Phone, Code Division Multiple Access (CDMA) Telephone based Wireless Local Loop (WLL) and value added telecommunication services and less on routine technical aspects for situation of competition and self-reliance. To be able to cope with the situation it is important that Nepal Telecom should maintain its financial health and expands its activities to remain the leader. These factors have required to

analysis of the profitability position of NTC like its revenue, expenditure and cash flow requirement. To forecast the degree of risk, the organization's financial statement should be analyzed carefully. There are many tools to analyze the financial statement of an organization. Some of them are Ratio Analysis, Fund Flow Analysis, and Cash Flow Analysis etc. Hence, Profitability is taken for analyzing financial statement of Nepal Telecom.

1.2 Introduction of Nepal Telecom

Nepal Telecom, which is initially established as 100% Nepal Government's undertaking (Except 50,000 shares of Citizen Investment Trust), has now a different ownership structure. Nepal Government has reduced its holdings in Nepal Telecom by allotting 5% of total shares to employees and 3.5% to general public. Nepal Telecom got its shares registered in securities board of Nepal on Poush 2064 and on Shrawan 2065, Nepal Telecom has entered into an agreement with Nepal Stock Exchange for trading of shares in stock exchange. From Bhadra 08, 2065, Nepal Telecom shares started trading at the stock market. When trading started, there was huge speculation what price NT share will fetch. During sale of NT shares to public, Nepal Government fixed a minimum price of Rs. 600 per share.

Nepal Telecom is a public enterprise (PE) owned (more than 90% of Total Share) by the government. According to Laxmi Narayan, "PEs are autonomous bodies which are owned & managed by government & which provide goods or services for a price. The ownership with the government should be 51% or more to make an entity PE".(Narayan, 1972)

Public enterprise has assumed significant role in almost every country of the world, yet there has so far been no standard definition of its own. The term 'Public Enterprise' has been defined differently by different agencies & government to suit their own respective situation. UN has defined PE as "Those organization, namely governmental enterprise & public corporations which are entirely or mainly owned and or controlled by the public authorities consisting of establishment which

by virtue of their kind of activities, technology & mode of operation are classified as industries".(Shrestha, 1990)

“Public enterprises play a major role in achieving the twin objectives of social & economic development envisaged in the national policy". (Annual report, 1999)

The role of Public Enterprise in stimulation & augmenting the pace of economic growth in developing countries can hardly be under estimated.

"Public Enterprise plays a very important role in most of developing countries. The role of Public Enterprise differs from country to country, basically due to political philosophy of existing governments. Public Enterprise comes in to existence either by the way of deliberate policy of the government to bring certain activities under new institution or by nationalizing them from private sector. When we see the history of PEs, we find that most of them were created by the government themselves to manage certain key sectors of the economy". (Joshi, 1989)

Public enterprise in Nepal constitutes a vital instrument for the socio-economic development of the country. It enjoys a strategic & crucial position in our mixed economy. They have been established in many sectors for the overall development of the country with different goals & objectives.

"Nepal Bank Ltd, a commercial bank, established in 1994 B.S., was the 1st PE to have separate legal status in Nepal".(Annual report, 1999)

During the 2nd world war, some other PEs was established; however, they could not make substantial progress. Nepal started its planned economic development in 1956 with the launching of 1st five year plan. Since, then the number of PEs has increased substantially in various fields of national economy.

There were 64 PEs before the privatization program of Government & now, there are 38 PEs. The PEs are dominant in the production of sugar, cement, cigarettes, agriculture tools, petroleum products & all public utilities PEs of Nepal can be categories as:

1. Statutory Corporation
2. Government Companies
3. Departmental Undertakings

Among the 38 existing PEs, there are three public utility PEs namely

-) Nepal Doorsanchar Company Limited (Nepal Telecom)
-) Nepal Electricity Authority
-) Nepal Drinking Water Corporation (Kathmandu Upatyaka Khanepani Co. Ltd.)

Grant/Loan assistance provided by government and several bilateral and multilateral donor agencies for communication development of Nepal.

Indian Government has played a Great role in providing infrastructure of Open wire Trunk Link (Aakash Bani- Aa.wa.) service & Telecom building at Tripureshwar for communication development of Nepal.

After establishment of Telecommunication Development Committee (Telecom) it has started to make and implement the Phase-Wise Development Plans in Telecommunication sector with the loan assistance of World Bank.

(Annual report, 1999)

Telecommunication Training Center (TTC) has been established into the boundary of Pulchowk Engineering Institute with the help of United Nation Development Program (UNDP) and International Telecommunication Union (ITU).

The organization from its weak initial footing has matured into a most dynamic organization in the country with operating revenue crossing Rs.10,413 m. (NTC's Annual report, 2007) & Standing as No. 1 public sector organization in terms of Heavy tax payer to exchequer.

NTC is reached in this Height with the help of Good Management of NTC, Nepal Government financing, International government financing by India, Japan, FRG, Denmark, Finland, UNDP and International Lending agencies like Belgium

Grant/Belgium State Loan, Against IDA Credit, French Grant/Loan, NDF Credit, Finida Govt. Loan, Danish Govt. Loan, Finish Grant etc.

East-West Optical Fiber SDH Project

The East West Optical Fiber SDH Project estimated cost is Rs.174 crores, 77% of which is funded through the grant assistance from the government of India. (Annual Report, 2003)

Arniko Highway Optical Fiber Project

As requested by the government of Nepal to government of China, Agreement between Economic and Technical Cooperation (China) and Nepal Government was held on 3rd Dec 2004. Recently a technical team of Nepal Telecom and Chinese Government has completed the preliminary survey and design of the project. (Annual Report, 2005)

1.2.1 The Evolution of Nepal Telecom

The history of telecommunication development in Nepal is not long one. The historical development of telecommunication services in the context of Nepal can be evaluated in to three stages:

A) Initial Stage (Prior to 2013 B.S.)

The 1st telecommunication service was started in Nepal during the regime of Chandra Shamsher in 1972 B.S. It was the first time & a good opportunity for Nepalese people to transmit message from Katmandu to Birgunj. This telephone line attributed as magneto connected Birgunj with Katmandu under the name of "Shree Chandra Telephone". Though, no remarkable development has been found at the time of Chandra Shamsher.

Another telephone line connecting Katmandu & Gaur of Rautahat district had been installed in the year 1980 BS. 25 automatic telephone lines were distributed among the high-ranking personalities of Nepal for their own individual uses. The telecommunication office was first established near Ranipokhari. Another notable telecommunication lines were made available during the role of Prime Minister Juddha Shamsher by catering the line in the different districts to the extent

of 300 miles long. The telephone lines were being extended from Katmandu to Siraha; the same being extended up at Hanuman Nagar of Saptari district in 1994 B.S. In the year 1998 B.S., additional installation of telephone line linking Dhankutta, Dharan & Biratnagar were distributed.

A noticeable change happened toward telecommunication during the period of Juddha Shamsheer. About 200 miles long telephone lines were also brought into use in western part of Nepal. The government of Nepal felt the need of telecommunication for effective administration & active participation of people to achieve national goals. So 200 local Cross-Bar telephone lines were set-up & distributed for his majesty's offices having exchange office at Singh Durbar in the year 2012 B.S. before implementation of 1st five year plan. Nepal had 200 Cross-Bar lines, 100 magnet lines, 15 automatic lines, 10 military exchange lines and 600 miles of trunk lines connecting Katmandu with other districts.

"Before the implementation of 1st five year plan, Nepal had wire-less relation between 28 centers only in various parts of the country. About 18 of these stations were equipped with modern equipment. The wireless services are made workable by means of petrol generators in different districts except Katmandu and Biratnagar. As the material and machinery requisite for wire-less services has been made available during the period of 2nd World War, a satisfactory service could not be achieved on account of transporting the petrol in remote district." (Sitaula, 1978)

B) Middle Stage (1st to 3rd five year plan / B.S.2013-2027)

After 2013 B.S., Government of Nepal had given topmost priority for the economic development of the country and in this connection; it has implemented the first "Five Year Plan".

During the 1st five year plan period (2013-2018 B.S.): The "Telecommunication Department" was established in 2016 B.S. A separate telephone exchange of 120 line capacity was installed in Singha-Darbar in 2017 B.S. through which telephone service was distributed to the Central Office of

Government Secretariat. At the end of First Five-Year Plan, telegram service was extended to 28 districts of Nepal and the number of telephone lines available to the general public was reached up to 1000.

During the 2nd plan period (2019-2022 B.S.): an Automatic Exchange of 4000 lines capacity was installed in Kathmandu. In 2019 B.S. Delhi and Calcutta of India were linked directly from Kathmandu with the help of telephone and teleprinter. In 2022 B.S., a Manual Exchange of 300 lines capacity was installed in Biratnagar. In the same period, Rawalpindi and Dhaka were linked by telephone. Telegram service was available in 58 different places of the kingdom.

The achievement during the Third Five-Year Plan (2022-2027 B.S.): HMG/N has established a separate organization named "Telecommunication Development Committee" (TDC) in 2026 B.S. 3000 telephone lines were added into Central Exchange and another separate exchange of 600 lines capacity was installed in Patan (Lalitpur). Mumbai (Bombay) of India and Kathmandu were linked by telephone. In this period, the survey for the establishment of "Microwave Communication System" has been completed.

C) Modern Era (4th plan period to 10th plan period)

The Telecommunication Development Committee has started to make and implement the Phase-Wise Development Plans with the loan assistance of World Bank. The development works

during different phases of Telecom Development Project are as follows:

In the First Phase Project (2027-2032), "Telex Service" was first introduced in Nepal. In 2028 B.S. Telecommunication Training Center (TTC) has been established into the boundary of Pulchowk Engineering Institute with the help of United Nation Development Program (UNDP) and International Telecommunication Union (ITU). To make the distribution system more systematic and judicial, "Communication Corporation Act 2028" was published on 20th

Chaitra,2028 B.S. Various telecom exchanges were established in Birgunj, Hetauda, Mlangawa, Bhairahawa, Pokhara, Nepalgunj, Dharan , Janakpur, Bhadrapur and Rajbiraj in 2029 B.S. At the end of this Phase, the number of telephone lines in the country reached to 9810 (8300 automatic and 1510 manual). (Shakya,2053)

During the Second Phase of Project (2032-2037 B.S.), Telecommunication Development Committee was converted into Nepal Telecommunications Corporation (NTC). NTC has introduced telephone service in Banepa, Bharatpur, Butwal, Dhankuta, Kalaiya, Mahendranagar, Surkhet and Tansen. The total lines distributed at the end of Second Phase increased up to 15590.

The Third Phase Project (2037-2042 B.S.) introduced with the achievement of Satellite Earth Station at Balambu, Introduction of Digital Switching System and Digital Transmission System in the telecom network of Nepal, establishment of own TTC building at Babarmahal, introduction of Subscriber Trunk Dialing (STD) and International Subscriber Trunk Dialing (ISD). At the end of this phase, the total numbers of telephone line distributed were reached up to 34870.

During the Furth Pase Project (2042 –2047 B.S), the capacity of existing digital exchanges was increased. Almost all the manual exchanges were replaced by the digital exchanges. The penetration of telephone service in the rural areas by digital multi access radio telephone system (MARTS) and digital radio links were established to provide the telephone service in the rural areas of Nepal. Several cities were linked by transmission link. During this phase 43500 lines were added and total lines increased up to 78250.

The Fifth Phase Project (2049-2054 B.S.) launched with getting certain specific objectives; improving the overall telephone density, equal emphasis on the expansion of services in urban as well rural areas, upgrading the main (East West Microwave) link .In this phase, a new Satellite Earth Station (A-type) was installed, a new Gate-way exchange was installed at Jawalakhel, International circuits

capacity increased up to 720 line. At the end of this period, 61000 Lines were added and capacity of exchanges reached up to 243000 lines.

The sixth phase Project (B.S.2054-2059 B.S.) launched with the planning to introduce value added service to cater for new market which is demanding more flexible and quality service in both wire-less and wire-line network. One of the major aims of the project was provide "On-Demand" telephone in all major centres .The basic telephone infrastructure is increased by 3,00,000 lines. Objective of launching the value-added services of Internet / E-mail, Cellular Mobile, Pay phone etc. are the remarkable initiation in this phase.

The Seventh phase Project (B.S.2059-2064 B.S.) launched with the planning to introduce Interactive Voice Response (IVR)- a device for S.L.C. result inquiry, Implementation of Customer Billing System (CBS)-an integrated billing & ledger/online cash collection system, Implementation of Service division (SD) system-an one window system to serve customer for new line connection, Introduction of Access Network for to solve the demand of PSTN in highly traffic area. Launching value added service of short message service in GSM mobile, Intelligent Network- a device of prepaid calling card (Easy Call Card). Some remarkable progress in this phase are: Completion of East West Optical Fibres SDH Project, CDMA Network project is going to be complete.

The current running planning phase (B.S.2064-2069 B.S.) is a highly ambitious and challenging project targeting to provide telephone connection on demand through out the country. This project aims to increase its capacity up to the end of 2066/67, PSTN by 9,00,000 lines GSM Mobile by 35,00,000 simcards and CDMA by 20,00,000 lines/simcards.

Some remarkable progress in this phase are: Banepa – Tatopani (China Boader) Optical Fibres SDH Project is started, ADSL broadband services is launched in kathmandu Vally and Notice Board Service is launched from 2008-11-26. Up to 2065 Poush, total installed and distributed telephone lines exchanges

(including mobile & c-phone services) have been reached to 34,03,788 lines. Total telephone exchanges in operation all over the country are 241. Total capacity installed PSTN telephone is 7,16,407, Out of the total capacity installed, 5,46,076 lines & c-phone 1,01,541 lines were distributed. (MIS report, 2065)

1.2.2 The Role of Nepal Telecom in Telecommunication Sector

Telecommunication is a quick and reliable means of transmitting information. Without telecommunication facilities neither the government nor the business community can work effectively. The importance of the telecommunication is not limited to the national boundaries. In developing countries, communication helps to make people sensitive, active, enthusiastic and skilful. Communication is one of the basic infrastructures for national development.

In earlier, Nepal Telecommunications Corporation was established in 2032-03-01 B.S. under NTC Act 1971 to provide reliable and affordable telecommunication services all over the country. On the course of liberalization policy adopted by government, it has been privatized in the form of Company and registered under the company registrar office on B.S.2060 magh 22. Its name has been changed to Nepal Doorsanchar Company Limited (NEPAL TELECOM) since 1st Baisakh 2061 (13th April 2004). Still NTC is a government owned Public Company Limited as a public enterprise. It is seen as an effective instrument of program implementation for accomplishing the desired national development goals. NTC is exerting it's almost efforts to provide communication services to larger sectors of population. "As a MIS report of Poush 2065", the total capacity of the exchanges (switching) (including mobile services) has been reached to 34,03,788 lines of which 7,16,407 is PSTN telephone, 1,01,541 post paid mobile, 21,22,464 pre-paid, and 659 Pre-Paid (3G) Mobile (As per SIM card distributed), 6,32,005 C-phone, 44,538 Internet Customers, 14,077 ADSL Customers, 639 MARTS Telephone, 93 VHF Telephone, 662 V-SAT Telephone, 13 Inmarsat Telephone, 393 Pay card Telephone, 256 Telex Services, 7 International Telephone Circuits, NTC is able to cover 3,229 VDCs on his telephone network through the country. In

NTC, there are working 5737 employees .Total telephone exchange station in operation all over the country are 241. Still, there are 3,14,730 customer numbers in waiters.

Nepal Telecom has planned to distribute 124331 lines PSTN, 10,20,000 lines Pre-paid Mobile, 8,45,000 lines C-Phone, ADSL & 10,000 Internet subscribers at the end of F.Y. 2065/66.Total lines additional planned Subscriber is 20,62,517.

NTC has played a great role in providing the main infrastructure for the overall communication development of the country. The services it provides are equally useful for almost all sectors of the society. Telecommunication is one of the quickest, cheapest as well as the most reliable means of communication in modern world. Without it, the private and government organization cannot function well. Telecommunication is a system which facilitates conveying information quickly over long distance with a cheap cost. There are also other means of communication such as postal service. But they are slower, expensive and less convenient. Therefore, telecommunication is one of the swift and reliable means of communication in the scientific age. It brings coordination among different government entities, which ultimately promotes administrative efficiency. The increase in administrative efficiency can be expected to enhance the productivity of the government decision and a better utilization of country's resources as well as mobilization of labour force for the achievement of national goals.

The international telecommunication system contributes to link the overseas countries in the field of economy as well as politics. It also contributes in the development of tourism industry, the major sources of foreign exchange of Nepal. Thus the telecommunication system plays an important role to strengthen the national economy and bring unity among the people around the world creating brotherly relationship among them. Telecommunication contributes a lot to the development of social condition of the country because it is a means of social change, which facilitates the accumulation, exchange and transmission of knowledge between people. So without communication human society would remain static and not much different from very old societies.

Thus in the developing country like Nepal, the role, importance and contribution of telecommunication to development cannot be exaggerated. "The effects of telecommunication on the rural areas and their contribution to rural development are potentially extremely important, yet rather difficult to measure." (Pierce, 1978)

1.2.3 Services Provided by NTC

Basic Telephone Services

NTC has been making continuous effort to satisfy the ever-growing demand for telephone lines. NTC has been expanding its telephone exchanges and line capacities to meet the growing demands and care the interest of its customers. Total telephone exchanges stations in operation all over the country are 241. Total capacity installed Public Switched Telephone Network (PSTN) telephone is 597701, Out of the total capacity installed, 483882 lines were distributed. In recent, NTC is able to cover 3229 VDCs and all over the 75 districts on his telephone network through the country (MIS report of Poush 2065 B.S.). All the exchanges of the Kathmandu valley and most of the main exchange outside the valley are linked by optical fibres SDH network. This optical transmission system has resulted in more reliable network and significantly improved quality of voice and data transmission. Below are the basic telephone services provided by Nepal Telecom. This study is centric to the status of public service delivery provided by Nepal Telecom mainly on the new line connection of PSTN telephone. Mainly, PSTN includes following:

Local Calls	National Trunk Calls	International Trunk calls	International Telegraph
Domestic Telex	International Telex	Leased Lines	Pay Phone
Packet Switching Data Communication	Intergrated Services Disital Network	Home Country Direct (HCD) Service	AFS (Advanced Free Phone Service)
Intelligent Network Services	PCC Easy Call Service	Universal Access Number Service	PSTN Credit Limit Service

Rural Telecom Services

The significance of communication channels such as public call offices in a country where about 87% of the people live in the rural areas with very remote and inaccessible terrains cannot be overlooked. NTC is working vigorously towards achieving the Government's objective to serve all the Village Development Committee's (VDC's) of Nepal with basic telephone lines and expanding its communications infrastructure in rural areas to connect more VDC's to the national network irrespective of its economic value and low prospects of returns. Now, NTC is serving more than 3229 VDCs with C-DOT exchanges, JICA rural stations, VHF/UHF stations, MARTS subscriber terminals and WLL service. A new CDMA technology that is going to be launch could be a major service in the area of rural as well as Urban area as to.

Pay Phone Services

Catering to the customer's need who do not have their own telephone line, for easy access to the telephone services anywhere, anytime while on the move without having to carry coins to make phone calls, NTC launched payphone service using smart cards in Kathmandu since 2058 B.S. and other parts of the country such as Pokhara, Bharatpur, Nepalgunj and Dhangadhi later. Today there are altogether 393 payphone sets installed in key commercial, business oriented and public service places of the country.

GSM Mobile Services

NTC started GSM Cellular Mobile Service in year 1999. In recent days this service has been expanded to various major cities throughout the country. The switching and control equipment is located in Kathmandu. At present, Mobile service is available in 75 districts. Mobile subscribers continue to avail service such as Voice, Fax Data (up to 9.6 Kbps), Voice Mail System (VMS), Short Message Service (SMS), National and international roaming services. From July 2003, GSM cellular mobile coverage has been extended along the highways from Mechi to Mahakali. Hence all the neighbouring towns along the highway also have GSM

coverage. Together with the expansion of the coverage area of the mobile service, the subscriber capacity has been increased to 101541 lines for post paid services and 2122464 Pre-paid SIM cards are sold (MIS Report, 2065). Different Services provided to Namate Mobile Users:

Multimedia Massaging Service (MMS)	Call Hold, Call Wait, Multi Party Call, Call forwarding	Colour Internet browsing (Only 3G Mobile)
General Packet Radio Service (GPRS)	International / National Roaming Service	Live TV telecast (Only 3G Mobile)
Caller Ring Back Tone (CRBT)	Balance Transfer (Only Pre-Paid Mobile)	Live Movie Video Cast (Only 3G Mobile)
Voice Mail Service (VMS)	Family & Friends Call	Video Call (Only 3G Mobile)
Short Message Service (SMS)	Emergency Dial	Video Streaming (Only 3G Mobile)
Information Services	Advertising	Cell Broadcast

Voice, Data and Telegraph Leased Circuits Services

NTC provides voice leased circuit services for voice telecast to the various countries to which NTC has directly links. NTC also provides National and International Leased Circuits Services for high speed and low speed data communication purposes at speeds ranging from 9.6 Kbps to 256 Kbps. International Telegraphs Leased Circuit Service is also provided at 50 and 75 bauds speeds for Press Bulletin Services and other financial transaction purposes. NTC also provides dial-up or dedicated X.28 and X.25 protocol based Packet Switching Data Services. Leased circuit provided by NTC is 128 (MIS Report, 2065)

International Subscriber Trunk Dailing Services

The main outlet for Nepal's International Telecommunications traffic is the satellite link accessing the Primary Path INTELSAT Satellite over the Indian Ocean region. Nepal is a signatory member of INTELSAT. Nepal is connected to India via Optical fibres system having 450 circuits and Bangladesh via microwave having 12

circuits. Through standard "A" and 'B' Earth stations of NTC a total of 764 satellite circuits are connected with a total bandwidth of 23,522 Kbps. Now Nepal has direct telephone links with 19 destinations and direct dialing services with 131 countries worldwide. International Telephone Circuits in operation (including Microwave Circuits) are 4628 (MIS Report, 2065).

E-mail and Internet Services

NTC has been providing E-MAIL and INTERNET service to its customers in Kathmandu valley since year 2000. Later this service has been expanded to other main cities outside the valley gradually. Now, this service is available from Mechi to Mahakali.

Internet billing system has been operational since last year. Keeping in view the amount of valuable time of its customers wasted in long queues just to get their monthly telephone bill statement and avoid delays in bill payments, NTC has been providing service to view the monthly (PSTN) telephone bills online on the net since October 2001. Monthly bills for all mobile telephone subscribers have also been put on the net since January 2002. Number of subscribers utilizing these facilities is on the rise everyday. At present a total of 44538 internet users and 4505 e-mail users have registered to this service (MIS report, 2065). Different Services provided to NTC’s Internet Users:

PSTN Dial-up (Fixed Hour Package)	Telephone Inquiry
PSTN Dial-up (Unlimited Single User Package)	Internet Leased Line Connectivity (n*64kbps)
PSTN Dial-up (Night Surfing Package)	Web SMS
PSTN Dial-up (Fixed Hour Package)	Post Paid Mobile Bills
PSTN Dial-up (Yearly email Package)	PSTN Bills in the Internet
ISDN Dial-up Service	Telecom Tender

INMERSAT Mini -M Services

Keeping in tune with the fast changing technological trend in the present, mobile communications industry has become a necessity. This service is being used for commercial, rescue, adventurous and safety applications. NTC's INMARSAT Mini-M is a digital phone, fax and data system, which works with very compact terminals. Portable INMARSAT - Phone terminals range in size upwards from a small laptop computer and can provide direct dial phone, fax or 9.6 Kbps data connections. Total Inmarsat Telephone users are 13 (MIS Report,2065).

Home Country Direct Dailing Services

The Prepaid home Country Direct Service (HCD) allows the service user to make phone calls to home country from any telephone set in foreign countries. When a user initiates a call with an HCD prepaid card, the system will first check the card number status, balance and validity period of the card. Relevant charges for the call will be made to the card on a real time basis. Presently NTC provides home country direct dialing services to USA, UK, Japan, South Korea UAE and Singapore.

International Telegraph Services

International telegraph service is available to all parts of the world through satellite and optical fiber links. Nepal has direct telegraph circuits with India and Japan.

International Program TV Services

NTC provides this service for occasional use. This service includes transmission of video messages by press correspondents, TV broadcast of major events either recorded or live on booked basis.

Telex Services

The telex service provided by NTC is fully automatic. The present new telex exchange, which was installed in 2001, has a capacity of 256 subscriber / trunk lines and it serves 158 telex subscribers with 60 international telex trunk circuits in operation. Telex service operates through satellite circuits and optical links. Nepal

has direct telex links with 7 countries -8 destinations (USA, UK, GERMANY, SINGAPORE, JAPAN, HONGKONG AND INDIA (Mumbai & Calcutta). It provides international telex services to more than 200 countries. Domestic Telex services are available in Birgunj, Biratnagar, Bhairahawa, Pokhara, Butwal and Nepalgunj. (MIS Report, 2065)

V-Sat Services

NTC has been providing telecommunication services in various remote and inaccessible parts of the northern mountainous region by VSAT equipment. The VSAT services provided by NTC have altogether 662 stations installed in various parts of the country. NTC has provided telecommunication services using DECT technology in Western Development region. Under the WLL system, 165 telephone lines were distributed in Rupandehi, Nawalparasi and Kapilvastu district (MIS Report, 2065).

Pre-paid Calling Card (PCC) Service

The PCC service has been launched since the beginning of 2005 commercially as "Easy Call" - allows service user to make phone calls from any DTMF telephone set and the call is charged to a card number provided by the user. When service user uses this service, he should enter access code, card number and corresponding Personal Identification Number (PIN). Only after confirming the validity of the card number and the PIN number, the service user is allowed to make call to the desired destination. During the call, real time billing will be conducted and the prepaid amount shall be deducted to pay the cost of the call and other services. With this service, customer can call any time to any where, and the Local PSTN number need not have prior STD and ISD facilities from Nepal Telecom. Currently, Nepal Telecom has introduced Prepaid Calling Card service with three different face values i.e. Rs 200, Rs 500 & Rs 1000 to suit its customers which are valid for 6 months, 12 months and 18 months respectively. Some of the features of PCC Services are:

- J Instant Access
- J Online Billing
- J National Roaming
- J Subscribers can go to any place and make a Local/STD/ISD call wherever the network of NEPAL TELECOM is present.
- J User friendly languages in English and Nepali.
- J Set Abbreviated Code
- J Query Abbreviated Code

Intelligent Network (IN) Services

Nepal Telecom has added another milestone in the history of telecommunications by introducing Intelligent Network (IN) value-added service for the first time in Nepal. This time, Nepal Telecom has done its utmost to fulfill the needs of its value added customers by providing such state-of-the-art technology which lets the user connect at any time, from any Telephone set to anywhere in the world. These services include:

- J Prepaid calling card or PCC service
- J Prepaid Home Country Direct or HCD service
- J Advanced Free Phone or AFS
- J Universal Access Number or UAN service
- J PSTN Credit Limit or PCL service.

Packet Switching Data Communication

Packet Switching can be defined as the routing of data in discrete quantities called packets each in specific format and within a maximum size. The packet of information is then enveloped by other bits to form a frame. The frame including the packet is then transmitted through the network. The ability of the network to transmit several data messages along a single channel in statistical multiplexing

manner as and when required provides a more efficient and economical means of data communication.

Short Message Services (SMS)

It is an important and very popular value added services of GSM mobile service. The Short Message Service (SMS) is the ability to send and receive text messages to and from mobile telephones. The text can comprise of words or numbers or an alphanumeric combination. SMS was created as part of the GSM Phase 1 standard. Each short message is up to 160 characters in length when Latin alphabets are used and 70 characters in length when non-Latin alphabets such as Arabic and Chinese are used. When a mobile user sends SMS to other mobile user, the message is at first sent to SMSC server which then stores and forwards the message to respective destination. Web-SMS is a new web based service launched by Nepal Telecom in order to facilitate its valued customers. Valid Nepal Telecom subscribers who have Nepal Telecom internet account can register to this service and send SMS to Nepal Telecom mobile users. You do not need to own mobile for using this service.

Voice Mail Services (VMS)

This service has been providing since the beginning of mobile service in Nepal. Voice Mail Service allows the user to be always in touch. In order to use the voice mail service, user must have call forwarding facility. If the user wants his/her incoming calls to be diverted to the Voice Mail server on different conditions (like unconditionally, on busy, no reply or out of reach), he/she must set the call forward number as 011450 in the user's mobile set. When the call forward service to the voice mail is activated, the incoming calls will be diverted to the voice mail box according to the conditions specified by the user. The calling party can leave the voice message in the mail box of the called party. Once the message is recorded in

the mail box, the user will be notified about the new message through Short Message Service (SMS). The user can then dial his voice mail box and check the new or old messages and manage mail box by dialing the Voice Mail number 011451. It should be noted that the user has to use own mobile SIM to access the voice mail service by this method. If the user wants to access the service indirectly from other mobile number, the dialing number for message deposit is 011450 and for retrieval the number is 011451. Once the user is connected to the voice mail server, the system will guide the user for different options in the service through interactive voice prompts. Users have to listen carefully to the guidelines provided by the system for familiarizing themselves to the service.

Interactive Voice Response (IVR)

NTC has recently introduced IVR-based result inquiry service for providing result of SLC exam. This is a joint effort of NTC with the Secondary Education Examination Board. The target of this service is to provide SLC result service mainly to the remote areas where 'Gorkhapatra' and or other media like the internet are not readily available. With a single requirement that those areas should have a working telephone line, the service is accessible to the general public by simply dialing '1600' from normal telephone set, public card phones, VSAT telephones and even mobile phones (send SMS in 1400) & Internet in www.slc.ntc.net.np. Also IVR based result service has providing for plus 2 (10+2) result since 2063 Shrawan. The service is accessible to general public by simply dialing '1600' from all type of NTC telephone (PSTN, CDMA, Mobile, VSAT) & NTC website.

Code Division Multiple Access (CDMA) Telephone Services

C-PHONE is based on CDMA 2000 1X technology which is the latest version of CDMA. CDMA is the fast growing wireless technology in the world. It has the advantage of voice clarity, large coverage and high speed data. With the aim of providing on demand telephone lines in all cities and towns as well as serving

most of the sparsely populated rural areas of the country, Nepal Telecom is introducing CDMA2000 1X (with EV-DO) based wireless in local loop system. Apart from the good quality voice, we believe that by providing high speed data along with other supplementary and value added services; we can also meet your growing need of being acquainted with the new technology. The managing director of Nepal Telecom inaugurated the soft launch of CDMA project on 23 Ashad 2062 (7th July 2005). The service was provided to public by NTC since 23 Magh 2062. In recent days this service has been expanded to various major cities throughout the country. The switching and control equipment is located in Kathmandu. At present, service is available in Kathmandu, Biratnagar, Pokhara, Bhairahawa, Nepalgunj, Dhangadhi, Rajbiraj, Janakpur, Bharatpur & Hetauda. CDMA subscribers continue to avail service such as Voice, Fax Data (up to 153.6 Kbps), Voice Mail System (VMS), Short Message Service (SMS), National and international calls. The subscriber capacity has been increased to 1,01,541 lines for post paid Telephones are sold. (MIS Report, 2065) Now, NTC going to distribute CDMA post-paid services.

Universal Access Number (UAN) Service

The **Universal Access Number (UAN) service** is designed to cater to such different needs of enterprise and individuals. In the UAN service, a service subscriber can have different telephone lines in different places and these lines can be accessed via **single unique Universal telephone number (for example: "1670-01-20123")**. The system will translate the UAN number to a specified corresponding Public Switched Telephone Network (PSTN) number according to the area of the caller and the calling time and then connect the call accordingly. If an enterprise has subscribed the UAN service, then its users in different places will be able to contact the branch office of the enterprise or the company group nearest to him by simply dialing the universal number. For subscribers whose working places are different in different periods of time, they can easily specify different

routes for the incoming calls in different periods of time, which will greatly facilitate the timely solution to their users' problems.

PSTN Credit Limit (PCL) Service

PSTN Credit Limit Service (PCL) evolves from the traditional prepaid card service. In the traditional prepaid card service, the subscriber is required to input the card number when he uses the service. In order to leave out the trouble of inputting card number, the PCL service takes the telephone number as the subscriber service number. When a service subscriber originates a call from a telephone registered for PCL service, the system will deduct fee from the corresponding prepaid credit limit account according to the calling number instead of card number. The subscriber can recharge the account in multiples of NRs 100.

Advanced Free Phone (AFS) Service

AFS service is the second Intelligent Network service to be launched. It was commercialized on Chaitra 1, 2061. One of the outstanding features of AFS service is its reverse charging feature, i.e., the called party pays for the call and no fee is charged to the calling party. Another key feature of the AFS service is that a service subscriber can have multiple terminal numbers with a single AFS number. The AFS service logic, according to the routing rules set by the service subscriber, translates the AFS number to the actual destination number, to which the system connects call. Thus, by dialing the unique AFS number, all users can be connected to different terminal numbers based on the call time, areas, and selections of the calling party. This service is a good choice for commercial organizations and social communities aiming for good communication with their users or supporters. Nepal Telecom has also published its AFS number 1660-1122333 for providing information regarding its services free of cost to the general public.

The Enquiry Service 197

The Enquiry service 197 was outsourced to Hare Devi Stores on 1st Poush, 062 (16th December, 2005). The enquiry service was operated by Nepal Telecom for the past 31 years. The formal inauguration of the service was done on poush 3, 2062 by former M.D Sugat Ratna Kanshakar of NTC.

ADSL Broadband Service

NT is launching its broadband services by use of ADSL 2+ technology to its valued customers. The service is initially available for Kathmandu valley only. NT has plans to expand the ADSL network through-out the country within the next three years. The services shall be provided by use of existing copper cable network infrastructure. Initially only high speed Internet Service shall be available and gradually services such as VPN, multicasting, video conferencing, video-on-demand and broadcast application etc. shall also be added in future.

Notice Board Service

Notice Board Service is a Value Added Telecom Service based on intelligent network platform. It is a supplementary service of PSTN VMS (Voice Mailbox Service) in which the mailbox can be used as a Notice Board by the subscriber. The subscriber can record their notice board material or information in their telephone (subscribed for Notice Board Service facility) so that when a person calls that telephone number, the recorded notices or information is played. The recorded notices/information can be edited or deleted as required by the subscriber. Notice Board Solution adds value to the existing telephone service providing efficient customer friendly interface with customers, strengthening customer loyalty. Answered phones help keep customers informed. One of the key advantages of Notice Board Service is that it can free companies from deployment of huge human resources for intensive tasks, particularly repetitive monotonous functions. It can

take the pressure off from the working staffs by narrowing away the chunk work and still provide callers with options that let them reach the appropriate people to address for more issues.

1.2.4 NTC's Future Plan

a) WCDMA

WCDMA is the evolution of GSM technology, to provide broadband 3G services, which also called UMTS (Universal Mobile Telecommunications System). At the end of 2005, the UMTS subscribers have reached almost 95 million and 100+networks. This is expected to reach over 227 million by 2009.

Nepal Telecom also plans to build an UMTS trial network in Kathmandu. The trial network will have about 8 Node – Bs (base stations), which will cover the main business areas in kathmandu with the initially capacity of 10000 subscribers. The 3G subscribers with 3G device can utilize the 3G services within the coverage area of the W-CDMA network and when outside the W-CDMA coverage, the subscribers can use the present 2G network and utilize its services. The network will be capable of delivering data speed up to 384 kbits/s and services like video telephony, Multimedia Messaging and Video Streaming will be available in the beginning. Besides these, users can enjoy broadband Internet, e-mail at speeds as high as 384 kbps.

b) Wireless Fidelity (WiFi) / Worldwide interoperability for Microwave Access (WiMax)

Nepal Telecom is planning to introduce wireless data connectivity 'WiFi' in selected hotspots in near future providing up to 54 Mbps of data up to few Kilometers.

WiMax on the other hand provides fixed wireless solution for wide area networks and has both faster and longer range than WiFi. WiMax provides up to 50 Km of line of line of sight range shared data rates up to 70 Mbps.

The beauty of these systems is that users need not worry about cable connections in places like airport terminals, cyber cafes, and conference halls for quickly browsing Internet. Whether WiFi or WiMax comes into scene in the country, they do not conflict with each other as they are designed to interoperate, and should indeed complement each other. The ultimate benefit will be to the rural population for access to low-cost broadband wireless access.

c) Next Generation Network (NGN)

NGN is a new hype in the field of telecommunications. NGN is a packet-based network able to provide telecommunication services and able to make use of multiple broadband transport technologies. The beauty of NGN is that there is independence of service-related functions from underlying transport technologies, but dependency between Access and Service. Besides, NGN would inter work with legacy networks via open interfaces and thereby provides a frame work for network evolution.

1.3 Statement of the Problem

Nepal is considered to be economically less privileged and less developed among the countries in the world. Nepal is facing problem of political instability and alarming poverty. The worldwide economic crisis had adversely affected the economy of the country. Due to which, the unemployment problem has come up. Load shedding are the most trouble shooting and alarming problem. Due to which, Nepal's one of the rated sources of income from all kinds of business has come down nearly zero. Telecommunication sector is bearing huge loss due to short supply of electricity. Trading sector and industrial sectors has confronted a vast security and problem. Due to which the unemployment problem has come up. Corruption is also hampering economic condition of Nepal. Recently, Nepal has adopted the path of economic development through liberalization for the economic growth of the nation. However, it is a known fact that any strategy for economic development requires a steady supply of funds for productive investment. Productive investment refers to the investment venture in productive enterprises.

Thus, for the development of the country, many of the business firms have been established as public enterprises as well as private enterprises.

Profit is the primary and legitimate objective of a business. It is well established principles that public enterprises should be run on business principles and generate commercial profit, which is an accepted accounting practice whereby performance results are gauged in term of net disposable profits after taxes and costs including the provision for depreciation. (Mathur, 1992)

PEs in Nepal have been created to build infrastructure for development and to supplement private sector and operate as a model for efficient use of resources and to generate surplus for self-expansion and contribution to national treasury. In order to realize these objectives, PEs has to be efficient in the utilization of their resources.

Profit is an all embracing index should be accepted by PEs. Profit has a tremendous impact on the moral of the commercial PEs. In modern concept of economic liberalization public enterprises should play their dual role, i.e. one for supporting government's policies and programs and another for their own survivability and growth. Generally an enterprise can be considered sound efficient which has a good profitability base of its own good marketing standing.

Finance is one of the most important functional areas of an enterprise. It is concerned with generation, transmission, distribution and other functions of any PEs including NTC. International lending agencies, Nepal Government (NG) financing and self-financing are the major sources of finance mobilized by NTC. NTC is one of the leading public enterprises functioning in public utility sector. Being a PE, it has been financed by government and several bilateral and multilateral donor agencies. In this current pace of privatization, govt. still holds the good rational to keep it under public sector. However, the introduction of private sector is not being prevented but encouraged from participation in these areas. As a result, when there was no competition in telecommunication sector till one year ago and NTC had enjoyed almost monopoly over the distribution of services, is now

facing some competition on distribution of PSTN & Mobile Telephone services with United Telecom Limited (UTL) & Spice Nepal Pvt. Ltd. (Mero Mobile). The government doesn't control the price of goods and services produced by such enterprises. At this juncture, NTC should be able to generate fair rate of return and surplus of its own. For this reason, it becomes imperative to be financially sound and independent at least in terms of paying interest on debts, operation and maintenance expenditures, administrative expenses and generating desirable rate of return on capital invested.

Technology has knocked on the worldwide networking of the telecommunication. Telecom services are difficult to imagine without industrialization. In this context, NTC has great role to play as most of the industries depends on the external as well as internal information. In this sense NTC hasn't got any problem in selling its products and services as the demand of telecom services is always growing. NTC gets the highest potential to further growth and expansion, as it does have a little market competition. Despite these facts, the performance of NTC is not satisfactory. In this context, the study of NTC primarily focuses on the financial obligation, generating rate of return on capital investment and internal revenue generation. This study is confined to the problem of financial operation and management of NTC. The present study will make a modest attempt to have an insight over the problem of financial management of NTC as well as to recommend some concrete suggestions for the improvement in overall profitability position through financial analysis. Profitability is the net result of a large number of policies and decisions. The ratios examiner thus far provide some information about the way the firm is operating, but the profitability ratios show the combined effects of liquidity, assets management and debt management on operating results.

The study tries to seek to answer the following questions:

- a) Is NTC maintaining same level of profit achievement as in previous years?
- b) Does NTC operating profits satisfactory?
- c) How efficient has NTC been able to use its assets?

1.4 Objective of the Study

The study mainly intends to evaluate the profitability position & position of NTC and make suggestions regarding concerned questions. The other objectives can be specified as follows:

-) To analyze the financial performance of NTC, through profitability analysis, considering relevant variables.
-) To discover the major financial strengths and weaknesses of NTC at present and near future.
-) To find out the opportunities & challenges NTC is now facing or will face in future.
-) To provide some suggestions based on the outcomes of the study for improvement of the profitability position of NTC.

1.5 Significance of the Study

Analysis of Profitability position and performance is a crucial part of financial decision making process of a business enterprise. Poor financial management affects adversely on liquidity, turnover and profitability. It is required to measure the profitability position of the enterprise periodically in order to ensure smooth functioning of an enterprise. NTC is an enterprise of great national concern. Thus, this study is made to evaluate the profitability position of NTC. Basically NTC is a service oriented business enterprise. So, it should provide better services as well as make profit for the sake of expansion of its services, adoption of new technologies, repair & maintenance to keep its services update/intact. Due to the changing scenario of the economy and the current Government policies, the private sector companies have been encouraged in telecommunication services. As a result NTC has started to face competition, which will be tough in coming days. So this study will be helpful to NTC management providing better information to improve its strengths and to grab opportunities in coming days. This study is expected to be a matter of interest for students & teachers of corporate finance and all concerned parties.

1.6 Limitation of the Study

A research is a full blaze and vast investigation study for the settlement of the problems. It needs full time, adequate amount of money, and authentic information. So these factors are assumed to be the limit of this study. Some others are:

-) Only 7 years' data is not sufficient for the study.(based on 1999/00 to 2005/06).
-) The study is based on secondary data provided by the organization. Thus the limitation of the secondary data may exist.
-) Only the financial aspect and profitability analysis shall be made, with bird's eyes view. It ignores other areas such as Assets Management, Risk Management and other Activities like Investment Policy of the organization.
-) The study is analyzed only with the help of financial tools and very few Statistical tools are used.
-) Since this study is mainly concerned with NTC, The conclusion drawn form the study, findings and suggestions may not be applicable to any other private or public enterprises.

1.7 Organization of Study

The whole study is divided into five Chapters. First Chapter deals with introduction. It consists: general background introduction of Nepal Telecom, The Evolution of Nepal Telecom, The role of Nepal Telecom in telecommunication sector, Service provided by NTC, NTC's future plans, Statement of the problem, Objective of the Study, Significance of the study, limitation of the study.

Second Chapter deals with review of literature. It includes review of books, previous study, research papers and review of unpublished thesis of various research students.

Third chapter concerned with the research methodology used in this study. It consists of: Introduction, research design, Methodology, period covered data collection procedure methods of data analysis, ratio analysis, statistical analysis.

Fourth chapter is the analytical chapter. It includes presentation and analysis of data, introduction, profitability ratio, net profit margin, operating expenses ratio, return on assets ratio, return on capital employed, return on equity, statistical analysis, correlation and regression analysis, major findings of the study.

Fifth chapter discusses with the summary, conclusion and recommendation of study.

Chapter – Two

REVIEW OF LITERATURE

2.1 General Background

For the review purpose, the researcher has undergone conceptual aspects of profitability and different relevant pilot works. Therefore, the objectives of the chapter are to provide the essential knowledge of profitability, financial statements and tools of financial statements analysis. Textual support and pilot studies are presented as follows.

2.2 Textual Supports

-) Financial statements
-) Financial statement analysis and interpretation
-) Tools of financial statement analysis

2.2.1 Trade-off between Profitability and Financial Statement

Financial statement involves Balance sheet, profit and loss account and accompanying notes. This is the most widely used aspect of financial statement of company. So, before to analysis of the statement it is essential to be familiar with major components of profit and loss account of company. Merely presenting the financial statement does not indicate the extent of efficiency and success desired by different interested parties. The statement, in this case is just a source by which the efficiency of the company can be measured with different angles. The study basically focuses in efficiency of operation for which profitability will be analyzed. While studying profitability, the liquidity and resources utilization are also examined.

Profit is a component of financial statement, which is aimed by a company. A layman can define profit is difference between total income and expenditure. In more specifics, profit can be illustrated two ways: operating profit and non-operating profit. In the context of company, an operating profit is one where interest paid, personnel expenses and other general loss including prevision for loss and depreciation are respectively deducted from the total receipts. While net profit is one where non-operation expenses like taxes, loss on sale of assets are deducted &

while gain on sale is added. While profit is absolute term & Profitability is a relative term. Both are used interchangeably in this study. While measuring profitability slight care is also given the factors affecting profitability, which are as follows:

-) Structure of balance sheet and Profit and loss account.
-) Operating efficiency and internal assets Management, and
-) Managerial decision making power (top management) regarding lending polices.

The study concentrates the efficiency in operation and earning capacity of company. The balance and profit and loss account are considered basis of study. Ratio Analysis is mainly used for this.

2.2.2 Financial Statements

The financial statements are the means of presentation of a firm's financial condition and basically consist of two types of statements - The Balance Sheet & Income Statement. These are prepared to report the overall business activities as well as financial status of the firm for a specified period to its stakeholders. These contain summary of information regarding financial affairs that is organized systematically. The top management is responsible for preparing these statements. "The basic objective of financial statements is to assist in decision making." (Pandey, 1996)

"The analysis and interpretation of financial statements depend on the nature and type of information available there in." (Khan & Jain, 1994)

A) Balance Sheet

Balance Sheet is one type of financial statement. It presents the financial position of a firm at a particular point of time. It is the fundamental of annual financial report. According to I.M. Pandey, Balance Sheet contains information about the resources and obligations of a business entity and about its owner's

interest in a business at a particular point of time. In accounting language, Balance Sheet communicates information about the assets, liabilities and owner's equity for the business firm as on specific date. It provides the snapshots of a firm's financial position at the end of its accounting period. Balance Sheet indicates the financial position of the firm. It also indicates the resultant outcome of the firm's investment, along with financial and dividend decision.

B) Income Statement

Income statement, also known as Profit & Loss Account, is another type of financial statement. It contains major information regarding business activities of a firm in a particular period of time. It shows the result of trading and non-trading operations during a period of time. It presents the summary of operating & non - operating revenues, costs, operating & non - operating expenses and profit or loss during a specified period in the business. The profit or loss figure in the Income Statement is the most important information that is directly related to the efficiency of the firm. The stakeholders of the firm are equally concerned with financial position as well as efficiency. So Income Statement too is an important financial statement. However, it may not be the true representative of the efficiency. In other words, Income Statement is the reflection of the firm's performance during the particular period of time and it occupies a significant place in portraying the result of business operation.

2.2.3 Financial Statement Analysis and Interpretation

"Financial analysis is the process of identifying the financial strength and weakness of a firm by establishing proper relationship between the items of Balance Sheet and Profit & Loss Account." (Pandey, 1996)

The purpose of financial analysis may differ according to the parties involved, viz. owners, creditors, investors and others whose interests in the business are different. But the interest of the management is in the whole aspects of the business. So it will involve in total financial analysis in order to evaluate its operating performance to audit its internal financial control system and to develop a strategy of bargaining for

fund from external resources. That's why the attempt is made here from the point of view of management of the firm for analysis.

The most important objectives of the analysis and interpretation of financial statements are to determine the significance and essence of the financial statements data to know the strength and weakness of a business firm. The basis for financial analysis is the financial information obtained from Profit & Loss Account and Balance Sheet. The financial information is needed to compare and evaluate the firm's earning ability. It is also required to aid in investment decision making.

Analysis and interpretation of financial statements is an attempt to determine the liquidity, solvency, efficiency and profitability position of an organization and also highlight the sources and uses of fund, on the basis of data supplied by financial statements. Analysis and interpretation of financial statements fulfill the different needs of the concerned parties like owners, lenders and the management itself about their invested interests by providing them with adequate information and letting them know whether their interest are promoted or not. A series of financial statements analysis and interpretation of different years help one to forecast and measure the trend regarding the firm's ability to meet the short term and long term liabilities.

The first task of the financial analyst is to select the information relevant to the decision under consideration from the total information contained in the financial statements. The second step involved in financial analysis is to arrange the information in such a way to highlight significant relationship between the variables. The final step is the interpretation and drawing of inferences and conclusions. In brief, financial analysis is the process of collection, arrangement of data, showing relationship among them and evaluating and interpreting the results.

2.3 Theories and Concepts of Profitability

Profitability means ability to earn profit. What role does “profit” play within the firm? What specific tasks are assigned to the financial staff, and what tools and techniques are available to it for improving the firm’s performance? On a broader scale, what is the role of profit in the Nepalese economy, and how can financial management be used to further our national goal? As we shall see, proper financial management will help all business provides better products to its customer at lower price, pay higher wages and salaries to its workers and managers, and still provide greater return to the investors who put up the capital needed to firm and then operate the firm. We can simply define the word “profit” as primary measurement of success of management effectiveness in business enterprise. In other word profit means the excess of total revenue over the total cost of production. Productive activities, which in turn is the result of the investment venture in productive enterprises. The establishment of these enterprises needs a huge amount of funds. Existing enterprises and companies within the economy can be viewed as productive enterprises that operate with equity and debt funds. The decision making process of choosing funds among various alternatives with the best financial mix, plays a crucial role in the capital structure decision of the firm.

As a Matter of fact, the overall efficiency of a company is reflected in its profits. Profit or loss have been universally recognized and accepted as a measure of business efficiency. Thus, the larger the profits, the more efficient and profitable the company is deemed to be. This criterion has the great advantage that it provides a certain standard of measuring the efficiency of company. Regarding this, Laxmi Narayan clearly states. "Profit is the simple, convenient and the most popular yardstick of judging the efficiency of a business enterprise in private as well as public sector. For private enterprise, is taken to be the most satisfactory criterion of efficiency. Profit helps in judging the overall efficiency and is easy to calculate. Even through profit maximization, unlike private enterprise, is not the sole objective of public enterprises, yet profit serves as a well accepted criterion for the judging the overall efficiency of public enterprises too". (Narayan, 1980)

The second component part of the term profitability is 'ability' which reflects the capacity of power of company to earn profit. This ability is also referred to as 'earning capacity' or 'earning power' of the concerned investment. Thus, the term 'profitability' may be taken as the ability of a company to earn profit. According to Howard and Upton, "The word profitability may be defined as the ability of a given investment to earn return on its use". (Howard and Upton, 1961)

It may be mentioned that the term 'profitability' is distinguished from the word 'profit'. Profit refers to the absolute quantum of profit whereas profitability alludes to the ability to earn profit. The former is an absolute measure in itself while the latter is a relative one. According to W.M. Harper, the profitability is a relative measure. It indicates the most profitable alternative. The profit, on the other hand, is an absolute measure- it indicates the overall amount of profit earned by transactions". (Peter, 1999)

As the profitability is a relative measure, it is used to judge the degree of operational efficiency of management. In a profitability analysis, the profit making ability of company as measured in terms of size of investment in it or its sales volume. Such an analysis of profitability reveals how particularly position stands as a result of transactions made during the year. It is particularly interesting to the suppliers of funds who can evaluate their investment and take necessary decision thereon.

Profitability is the net result of a large number of policies and decisions. The ratios examiner thus far provide some information about the way the firm is operating, but the profitability ratios show the combined effects of liquidity, assets management and debt management on operating results.

Profitability ratio is a widely used tool of financial analysis. It is defined as the systematic use of ratio to interpret the financial statements so that the strength and condition can be determined. While computing the ratios, they do not add any information; they only reveal the relationship in a more meaningful way to enable us to draw conclusions from them. Further, in financial analysis, and performance

of the firm. It helps in making decisions as it helps establishing relationship between various ratios and interpret them. It helps as analyst to make quantitative judgment about the financial position and performance of the firm.

The rationale of ratio analysis lies in the fact that it makes related information comparable. A single figure by itself has no meaning but when expressed in terms of a related figure, it yields significant inferences Ratio Analysis, as quantities tool, enables analysts to draw quantitative conclusions.

Hence, ratio analysis is the systematic production of ratios from both internal and external financial reports to summarize key relationship and results in order to appraise profitability position. It is used as practical means of monitoring and improving performance, which helps the organizations, meet their future obligations of expectations from the past performance.

The profitability concept has an important place in the theory of financial management. The financial decision of a firm relates to choice of proportion of debt and equity to finance the investment requirement. A proper balance between debt and equity is necessary to ensure a trade-off between risk and return to the firm. A firm should select such a financing mix, which maximizes the profit of the firm. The optimal profit and its implication are more noticeable.

2.4 Review of Thesis relating to NTC

Researches have not been made in the areas of Profitability of NTC. Most of the researches have not been fully able to explain the financial condition of this organization. Very few dissertations have been available in the profitability position. Thus an attempt has been made to review the available thesis, which is relevant to this study. Most research works have been done in the areas of manufacturing. But there are not in the areas of public utilities.

Adikari (1995) : Carried out research as on topic "An Evaluation of financial Position of Nepal Telecommunications Corporation" and concluded the followings

-) There is no serious liquidity problem in NTC. The current Ratio of NTC is 1.15 times. The current assets of NTC are greater than current liabilities in

each fiscal year. It shows the better liquidity position of NTC. But it does not mean that there is not any liquidity problem in NTC. The current Ratio is affected by the huge amount of sundry debtors. The coefficient of correlation between current assets and current liabilities is 0.9904 and the probable error of the correlation is .0089. This means that both the variables are positively correlated and the corporation has been following a uniform policy to finance current assets and current liabilities.

-) NTC has invested the huge amount in purchasing the fixed assets but the revenue generating ability is very low in comparison to investment, which is only 0.04 times. This shows that there is no effective utilization of fixed assets in generating revenue.
-) There is increasing trend in the size of total assets but it is not significant. The total assets turnover ratio is very low. On an average, the total assets turnover ratio is only 0.22 times. Therefore, it can be said that the management of NTC is not able to utilize the assets properly.
-) From the analysis of financial statement, we know that sundry debtors are the most sensitive sector for the management of NTC. In an average, the collection period is 132 days. Only in two fiscal years, the collection period is below the average debt collection period and in other three years the collection period is highly greater than the standard debt collection period. Because the receivables are taking long period to be collected, there is very low debtor's turnover ratio. Therefore, it can be inferred that the firm is not adopting proper receivables management policy. When referred to NTC management, it has set 90 days as standard collection period.
-) It is already mentioned that NTC has been operating under the profit position over the five years study period. But return on total assets percentage shows poor performance. On an average, NTC is able to earn only 3.88% rate of return on total assets. This shows the very low profitability position. In the first four fiscal years, it has not even been able

to cover the average rate of return on total assets. But it has shown some improvements in the last fiscal year of the study period. In most of the fiscal years, the return is very low in relation to total assets. It means return has not increased as increment in the investment of assets.

Pokhrel (1997) : Found the following findings as the topic of "Traffic structure of Nepal Telecommunication in Nepal".

-) The tariff rates for local telephone, STD, ISD and other services are reasonable.
-) Time constraint is necessary but three minutes allotted at the present time is not sufficient.
-) The interest rates provided by NTC for the amount of deposit by its subscriber is relatively low in comparison to the rate of interest provided by the banks.
-) NTC takes differential tariff for the use of telecommunication facilities during the day, evening and night time. It helps for the proper distribution of traffic load with respect to time, improves the grade of service and encourages the low - income group to get benefit form the services.

Neupane (2001): Carried out research as on topic "A Study on Profit Planning in Nepal Telecommunications Corporation" and concluded the followings

-) The corporation has no skilled planners.
-) Budgets are prepared just for the formalities.
-) NTC has not adequately considered controllable and non - controllable variables affecting the organization.
-) Actual sales line trends are always below the budgeted sales lines.
-) Net Profit of NTC is in increasing trend.
-) Huge amount of cash is remaining idle.
-) There is no clear-cut criterion to separate cost into fixed and variable.
-) Turnover Ratio is not so good even it enjoys monopoly market.

Bajrachrya (2040): Found the following findings as the topic of "An evaluation study of telecommunication development in Nepal".

- J The Government of Nepal has given low priority in each and every development plans for telecommunication development of Nepal.
- J The telecommunication facilities in Nepal are very low in comparison with the development countries.
- J The main problems of telecommunication development of Nepal are lack of financial resources, lack of technical knowledge and problem of management and administration etc.
- © In the process of development of telecommunication sector of Nepal, foreign aid has played a significant role.

International telecommunication union has contributed to the establishment of a training institute to train the telecommunication technicians of Nepal.

Shrestha (1994): Carried out research as on topic "Revenue collection improvements in service delivery of NTC" and concluded the followings

- J Large overdue bill is remaining with government department, agencies etc.
- J The problem of revenue generation in telecommunication arise from congested local service bringing system, failures, unsatisfactory clearance of faults in local cable distribution networks.
- J NTC has not adequately considered unmet demand, customer's service in the counter, complaint desk & maintenance branches.
- J NTC has shortage of circuits, equipments and trained manpower.
- J NTC has long procedure for new line connection and change from one place to another place.
- J NTC has not adequately considered controllable quality and standard of service.

Sharma & Co. (1999): Found the following findings as the topic of "Report on Financial Projection and Tariff Analysis of NTC"

© Existing Tariff

The profitability will go on decreasing and the Rate of Return will decrease to 6% by the year 2062 B.S. from actual rate of 41% in the year 2054/55. The liquidity position will also not improve to encounter the future competition. There will also be no satisfactory contribution to reduce the degree of dependency on the international call revenue.

© Option 1

This option seems to be the most suitable one from the financial and marketing point of view. The rate of return will be maintained at acceptable levels. Proportion of the international and domestic revenue will be 39% and 69% respectively from the present 54:46. This option takes care of fairly longer period.

© Option 2

Under this option, NTC's financial performance will not be better than the option 1. On the other hand the monthly rental will be 3 times the existing rate. Therefore it can not be regarded as better than Option 1.

Tele Danmark Consult (1999): Find the following findings as the topic of "NEPAL-Telecom Sector Reform Project Tariff Study Up-dating Consultancy"

© PSTN

All the propose tariffs seem to cover the costs in the analysed period and ensure NTC enough revenue to cover the costs in the 6th Telecom Development Project.

The interest burden should be given some attention. In the 6th Telecom Development Project period it rises rapidly and will limit the freedom of action for the managers in NTC.

Activities for optimizing the "capacity" and "use of capacity" relationship should be given high attention. It is obvious that the number of unused lines in the exchanges reduces the potential revenue.

The proposed new tariff may reduce the number of subscribers (families, persons and companies) with more lines without a real need.

It is unlikely that introducing of the proposed tariffs can be carried out at one time, but tariffs and the tariff structure should be seen as a goal for the tariff policy and strategy in NTC, mostly to be able to meet competition from other operators when new licenses are given to more service providers.

© Mobile Telephony

Launch of new services in the telecommunications sector gives more possibilities in the tariff setting. It is necessary to work out different models of tariff combinations to convince NTA that the tariffs are:

- necessary for the operator's profit
- reasonable for the society
- affordable for the customers

All three will be fulfilled if tariffs can be fixed in accordance with the costs for providing the service. An easy way to test the proposed tariffs is to compare with other countries where competition has been fierce. The tariffs in these countries tend to be as cost-based as possible. Tariffs in UK will form a good basis for comparisons.

© Leased Lines

The tariffs for leased line services are the most difficult service to see through. Different operators use at least four different principles:

- Some operators determine the tariffs according to costs(Cost-based Principle)
- Other operators determine the tariffs based on 65,000 traffic minutes per year for a normal PSTN line;
- Other again on marketing considerations
- Finally other operators have based the tariffs on historical practice from the monopoly era.

Even though differences are huge between the countries a tariff level close to the column "LOW" should reflect to cost for providing the service using new technology.

© Development in the Sector

Looking at the global development in the telecommunications sector NTC can expect to face some of the below –mentioned criteria for the sector in the years to come;

- Change the market situation from monopoly to competition, where more operators will compete on the services offered to –day by NTC. The competition will also come in services not offered by NTC to-day, e.g. Mobile Telephony, Telephone Directories, Intelligent Network Services, etc.
- Also in future NTC will have to earn enough revenue to cover the planned investments. If tariffs were fixed politically and out of range with costs for the services, the operator would have to be supported from the State Budget or by subsidies from other services, i.e, from international to local telephony. In a competitive market such cross-subsidies are unlikely.
- Operators operating in a competitive market have to optimize tariffs for each service or product to fulfill the demand from the market in competition with other operators. Profit maximization is necessary to be able to stay in the market and develop the company. Without optimizing the tariffs, especially the incumbent operator (NTC) will be left back with all non-lucrative services and areas.
- It is important to observe new operators (Competitors) in the market, very closely, and work out plans for activities to launch, depending on competitive steps and activities from other operators. Keeping customers connected to NTC’s network is important to maintain or raise the profit.
- Competition on customers will widely be carried out in the Customer Care areas where billing reliability, service level, confidence in carrying out agreements, quick and precise delivery, etc. will be main factors.
- To attract the most beneficent customers will be fierce and all marketing tools will be used.

2.5 Research Gap

Most of the study has been conducted in different aspects of financial analysis and performance. Very few dissertations have been available in the profitability position. Most research works have been done in the areas of manufacturing and banking. But there are not in the areas of public utilities. This research has tried to analysis overall profitability position of NTC. Recent data and information has been used as the secondary data in this study.

Chapter – Three

RESEARCH METHODOLOGY

3.1 Introduction

The main objective of financial analysis is to find out the profitability position of Nepal Telecom. Financial analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing the relationship between the items of the Balance Sheet, Profit & Loss Account and Income Statement. Financial analysis gives the real picture of profitability position of any organization. So it helps the management as per what kinds of policies should be adopted. There are many variables in NTC. This chapter looks into the research design, nature and sources of data, data collection procedure, hypothesis and tools of analysis. By analyzing only certain aspects, the clear picture of profitability position of such a public organization like NTC cannot be understood. We would try only to have a glance of it. This will be our objective of present study.

3.2 Research Design

"Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions. The plan is the overall scheme or program of research. It includes an outline of what the investigator will do from setting the hypothesis and the operational implications to the final analysis of data." (Karlinger, Rinchart & Winston, 1991)

The analysis of this study is based on certain research design keeping in mind the objective of the study. Generally, research design means definite procedure and technique, which guideline studying profound ways for researcher ability. The main objectives of the study are to analyze the profitability position of NTC. For this purpose, the research design used in this research works are analytical as well as descriptive methods based on the available Balance Sheet, Income Statement for a specific period of time. Various financial ratios are used in analyzing profitability position. This study will give some valuable suggestions to strengthen the financial position of NTC as far as possible.

3.3 Nature of Data

Secondary sources are approached for data collection. NTC library, Nepal Rastra Bank, Ministry of Finance, Stock Exchange, TU library and all available published and unpublished materials concerning the study is used in the study.

The data used for this research is primarily generated for the other purposes. Balance Sheets, income statements, official records, acts of incorporation and the corporation's various documents and publications related to the proposed study are used. Hence, this study is based on secondary data, and therefore the reliability of the findings depends on these data.

3.4 Period Coverd

The research is based on historical data. The study includes the data of past seven years period i.e. from fiscal year 1999/00 to 2005/2006.

3.5 Data Collection Procedure

Data collected is the connecting links to the world of reality for the researcher. The data collection activity consists of taking order information from reality and transferring it into some recording system so that it can latter be examined and analyzed for pattern. It is from these patterns social behavior can be understood and predicated. Research as a media can be interpreted as having content of data and process of methodology. Without data, methodology can not be utilized to bring us to conclusion.

3.6 Methods of Data Analysis

3.6.1 Ratio Analysis

Ratio analysis is a widely used tool of financial analysis. Ratio analysis is a powerful and important tool of financial analysis, which helps in identifying the health of the organization. In other words, ratio analysis helps the analyst make qualitative judgment on the firm's financial position as well as performance.

It presents the actual situation of the organization. It provides guideline especially in spotting trend towards better or poor performance. Since financial efficiency is vital element to achieve the goal, the management should be aware of the current financial position. If present condition can be assessed correctly, then the

management can predict the future position, and take corrective actions to improve the financial position. So it is very important for any organization to analyze its financial position with the help of ratio analysis.

Ratio analysis helps in identifying the strengths & weaknesses of the organization. Through Ratio analysis, one can meaningfully summarize the large quantities of financial data to make qualitative judgment about the firm's profitability position as well as financial position. The financial Ratio is simply the relationship between two figures taken mainly from the financial statements of a business firm. Mathematically, ratio refers to the numerical or quantitative quotient between two variables. A Ratio is calculated by dividing one item of the financial statement with other. The primary purpose of Ratio is to point out areas of further investigation. Ratio Analysis is used as a major tool in interpreting and evaluating financial statements.

Ratio analysis stands for the process of determining and presenting the relationship of items and groups of items in the financial statement. According to Van Horne, "to evaluate the financial condition and performance of a firm, the financial analysis needs certain yardsticks. The yardstick frequently used is a ratio or index relating to pieces of financial data to each other." (Horne, 1998)

Ratio may be classified in number of ways keeping in view the particular purpose. There are differences among scholars about classification of financial ratios. According to Van Horne, different types of Ratios are used in a day to day analysis. Generally, four types of Ratios namely liquidity, leverage, turnover and profitability are used in analysis of financial position of a company.

3.6.1.1 Comparison Standards

"The ratio analysis involves comparison for a useful interpretation of the financial statements." (Pandey, 1996)

A Ratio itself could not help much to the analyzer unless he/she makes comparison of it with some standards. There are many types of standards available for comparisons. The important ones are:

a. Past Ratios

b. Projected Ratios

c. Competitors' Ratios

d. Industry Ratios

Comparison with past Ratios of the same company may be suitable to evaluate performance over a period of time of a company. It is known as time series analysis or trend analysis. Projected Ratios are future Ratios that are developed from projected financial statements of the company. Comparison with future Ratios helps to find whether the company's performance is accordance with the long term planning or not. Comparison with competitors' Ratio is also called cross-sectional analysis. The analyzer compares the company's performance with its competitors' and finds the company's relative financial position / performance. Industry Ratios are always useful to compare the company's performance with whole the industry's as it is from the same industry. "This sort of analysis, known as the industry analysis, helps to ascertain the financial standing and capability of the firm vis-à-vis other firms in the industry." (Pandey, 1996)

Among various types of comparisons, this research mainly uses the past ratios for meaningful analysis of NTC's profitability position.

3.6.1.2 Types of Profitability Ratios

The following Ratios are analyzed in this study:

Profitability Ratios

Profitability ratio is the main concern of the owners and the management of the firm. The management of the firm always wants to know how efficient the operation of the firm is. Likewise the owners of the company always expect a reasonable return for their investment in the firm. For this reason, profitability ratio can be a good measurement of the operating efficiency and profitability of the firm.

By the help of the profitability ratios, one can make a quick and clear view towards the firm's profitability, return on assets, and return on equity and earnings per share etc. In general, profitability ratios can be determined by two different factors of the financial statements. One is related to the income statement i.e. sales, expenses etc. and the other one is related to the balance sheet i.e. the investments, capital etc.

Profitability Ratios Related to Sales:

These ratios explain how much profit earned or how much expenses occurred by the company on each rupee of its sales. The following profitability ratios related to income statement are presented here.

1. Net Profit Margin

Net profit is the residue of revenue over total costs. The costs include operating & selling expenses, interests, and taxes. The Net Profit Margin Ratio measures the relationship between Net Profit and sales of the firm. It indicates the ability of the management in running the business efficiently in terms of revenue generation, costs of producing goods & services, operating & selling expenses, costs of borrowed capital and making a reasonable return for its owners. It is computed by dividing net profit after tax by sales.

$$\text{Net Profit Margin Ratio} = \frac{\text{Net Profit after Tax (NPAT)}}{\text{Sales}}$$

Some Scholars does not consider interest charges as the expenses of the firm in computing Net Profit Margin. To exclude the effect of financing charges on profitability, they used the following alternative formula for computing Net Profit Margin Ratio:

$$\text{Net Prodit Margin Ratio} = \frac{(\text{NPAT} + \text{Interest})}{\text{Sales}}$$

2. Operating Expenses Ratio

The Operating Expenses Ratio explains the changes in operating profit margin. This ratio is computed by dividing operating expenses by sales. Operating expenses

consists of cost of goods sold, selling expenses and general and administrative expenses excluding interests.

$$\text{Operating Expenses Ratio} = \frac{\text{Operating Expenses}}{\text{Sales}}$$

Profitability Ratios Related to Investments :

Another computation of profitability ratios is related to investments. It is called return on investment (ROI). But there are different concepts of investments in financial literature: assets, capital employed and shareholders' equity. Based on these, the ROI also categorized in different categories:

Return on Assets

Return on Capital Employed

Return on Shareholders' Equity.

3. Return on Assets (ROA)

Here, the profitability ratio is measured in terms of the relationship between net profits and the assets of the firm. Different approaches are applied to define Net profit and assets for calculating ROA. But we will apply net profit after tax (NPAT) plus interest and total closing assets for this study. It is computed as:

$$\text{Return on Assets} = \frac{(\text{NPAT} + \text{Interest})}{\text{Total Assets}}$$

4. Return on Capital Employed (ROCE)

This is another type of ROI and a little different from ROA. Here, profit is related to the capital employed which is equal to net fixed assets plus net working capital or shareholders' equity plus long term debt. It is calculated as:

$$\text{ROCE} = \frac{(\text{NPAT} + \text{Interest})}{\text{Capital Employed}}$$

Where,

$$\text{Capital Employed} = \text{Owners' Equity} + \text{Total Long - Term Debt}$$

5. Return on Equity (ROE)

Common or ordinary shareholders are entitled to the residual profits. "While the ROCE expresses the profitability of a firm in relation to the funds supplied by the creditors and owners taken together, the return on shareholders' equity measures exclusively the return on the owners' fund." (Khan & Jain, 1994)

A return on shareholders equity is calculated to see the profitability of owners' investment. The shareholders' equity or net worth will include paid - up share capital, share premium and reserves and surplus less accumulated losses. Net worth can also be found by subtracting total liabilities from total assets. It is computed as net profit after taxes divided by shareholders' equity.

$$\text{Return on Equity} = \frac{\text{Net Profit After Tax (NPAT)}}{\text{Net Worth (NW)}}$$

3.6.2 Statistical Analysis

Facts and figures about any phenomenon whether it relates to population, production, sales, profit or any other matters are called 'statistics'. In this sense, the term statistics is considered synonymous with figure. To the layman, the term statistics usually carries only the nebulous and too often distasteful connections of figures. "The word statistics refer either to quantitative information or to a method of dealing with quantitative information." (Gupta,1983,)

The following statistical measures are used the required financial analysis.

- ✓ Arithmetic Mean
- ✓ Trend Analysis
- ✓ Correlation Analysis
- ✓ Simple Regression Analysis
- ✓ Bars & Charts

3.6.2.1 Arithmetic Mean

The Arithmetic Mean is the most popular and commonly used measures of central tendency, which represents the entire data by a single value. The Arithmetic Mean of values of variable in a given set of observation is the summation of all the values

of the variables divided by the number of observations. In general, x_1 , x_2 ,, x_n are given observations up to nth term, then their Arithmetic Mean (\bar{x}) is given by:

$$\bar{x} = \frac{(x_1 + x_2 + x_3 + \dots + x_n)}{n}$$

Where, \bar{x} = Mean, x_1 , x_2 ,, x_n are the given set of observations and n = numbers of item observed.

3.6.2.2 Trend Analysis

Trend Analysis is an analysis of a firm's financial ratios and/or financial figures (absolute amount) over time in order to determine the improvements or deterioration or stability of its financial situation. Thus, the concept of trend analysis does not include short-range fluctuation but rather steady comprises movement over a long time. Different methods can be used in practice under trend analysis. Among them 'Method of Least Square' is the most widely used mathematical method in order to find out the general movement of a variable in long-run. With the help of this method, a trend line is fitted to the data in a manner that the following two conditions are satisfied.

$$1) \sum_{i=1}^n (Y_i - \hat{Y}_i) = 0$$

Where, Y = the actual value of dependent variable

\hat{Y} = the trend value

$n = 1, 2, 3, \dots, n$

$$2) \sum_{i=1}^n (Y_i - \hat{Y}_i)^2 \text{ is minimum i.e. the sum of squares of the deviations of the actual}$$

and computed values are minimum from the trend line and hence the method named

least square. The method of least square may be used either to fit a linear or a non linear trend line.

The straight trend line is represented by the equation;

$$Y_i = a + b x_i \quad I = 1, 2, \dots, n$$

Where, " x_i " is used to designate the trend values to distinguish them from the actual values, "a" is the intercept, "b" is slope of the trend line, and "X" is independent and "Y" dependent variable. In order to determine the values of constants "a" and "b" the following two normal equations are to be solved:

$$\sum Y = na + b \sum X \dots\dots\dots (I)$$

$$\sum XY = a \sum x + b \sum X^2 \dots\dots\dots (II)$$

Where, n = Total number of years.

By solving the above equations for a and b, we get

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

$$a = \frac{\sum X^2 \sum y - \sum X \sum xy}{N \sum X^2 - (\sum X)^2}$$

The constant "a" is simply equal to the Y intercept value and the constant "b" is equal to the rate of change in Y a slope of trend line.

The above mentioned method is used in this study to determine the trend of various ratios i.e. long term tendency of various ratios that indicate financial position/performance.

3.6.2.3 Correlation and Regression Analysis

Correlation Analysis is the statistical tool generally used to describe the degree to which one variable is related with another. The relationship is generally assumed to be a linear one. This analysis is also used in conjunction with regression analysis to

measure how well the regression line explains the variations of the independent variable. It enables one to determine to the degree and direction of association between two variables.

For measuring correlation, it is essential that the two phenomena should have cause and effect relationship. In absence of such relationship, one should not talk of correlation between them. But the correlation in itself does not tell about the nature of the cause and effect of relationship between the variables. It is explained by regression analysis.

There are several mathematical methods of measuring correlation. The method developed by Carl Pearson, popularly known as Pearson's co-efficient of correlation, is most widely used in practice. Carl Pearson's co-efficient of correlation measures the degree of association between two variables, say variable X and variable Y, and is denoted by the symbol 'r'. The formula for computing Pearsonian correlation 'r' is:

$$r = \frac{\text{COV}(XY)}{\sqrt{\text{var}(X)} \sqrt{\text{var}(Y)}} \quad \text{or}$$

$$r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{[N \sum X^2 - (\sum X)^2]} \sqrt{[N \sum Y^2 - (\sum Y)^2]}}$$

Where, X = Value of variable X

Y = Value of variable Y

The value of the co-efficient of correlation obtained by the above formula always lie between +1 to -1. The following general rules are taken to interpret the value of 'r'.

- A. If 'r' = +1, it means that there is perfect positive relationship between the two variables.
- B. If 'r' = -1, it means that there is perfect negative relationship between the two variables.

C. If $r = 0$, it means that there is no relationship between the two variables i.e. the variables in question are independent.

The correct interpretation of 'r' depends on the size of the sample, among the other things. Smaller the size of sample, less reliable is the result. So we need to test the statistical significance of 'r' before confidently inferring from it.

Probable Error (P.E.): The probable error of the co-efficient of correlation helps in interpreting its value. With the help of probable error, it is possible to determine the reliability of the calculated value of coefficient of correlation:

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

Where r is coefficient of correlation and n is the number of pairs of items.

Interpretation:

1. If the value of r is less than the 6P.E. The calculated r is not reliable or not significant
2. If the value of r is greater 6P.E., the relationship or correlation is reliable and significant.

Regression Analysis: Regression Analysis is a statistical tool with the help of which we determine the statistical relationship between two (or more) variables and estimate/predict the unknown values of one variable from known values of another variable. The variable(s) whose value is known is called independent variable(s) and the variable whose value is to be predicted is known as dependant variable. It establishes the functional relationship between the variables of ones interest. Though the tool of regression analysis can be extended to there or more variables, we confine our analysis in just two variables in this research.

The quality of the relationship set up can be gauged and checked by coefficient of correlation between the variables. In this part of analysis, we also assume a simple linear regression between variables.

The regression equation of Y (dependant variable) on X (the independent variable) is expressed as follows:

$$Y = a + b X$$

In this equation a and b are unknown constants which determine the position of the line. These constants are called the parameters of the line. The parameter a determines the level of the fitted line i.e. Y intercept. The parameter b determines the slope of the line i.e. the change in Y for 1 unit change in X. The symbol \hat{Y} stands for the value of Y computed from the relationship for a given value of X.

We apply least square method to draw a straight line regression trend. To compute the value of a and b we solve the following two simultaneous equations.

$$\sum y - y = \sum byx (x - x) \dots\dots\dots (I)$$

$$\sum x - x = \sum bxy (y - y) \dots\dots\dots (II)$$

The assumptions of the least square technique and the method of solving these simultaneous equations is the same as those in straight line trend already mentioned.

3.6.3. Graphs and Diagrams

One of the most convincing and appealing ways in which statistical data/results may be presented is through diagrams and graphs. There are numerous ways in which statistical data may be displayed pictorially such as different types of diagrams, graphs and maps. The diagrams and graphs give bird's-eye view of the entire data and, therefore, the information presented is easily understood. They create greater interest than the cold figures. The impressions created by diagrams and graphs last much longer than those created by the figures in a tabular form. They also facilitate comparison of data relating to different period of time or regions.

Chapter – Four

PRESENTATION AND ANALYSIS OF DATA

4.1 Financial statement of NTC

Data presentation and analysis is the fourth chapter of this research study. It is an important phase of the research study. The presentation of data is the basic means for organizing and classifying for performance analysis. In this chapter, the collected data are presented in a systematic manner so that they will be meaningful. The effort has been made to analyze the overall performance of NTC. For this, all the major variables are considered for analysis. The analysis consists of organizing, tabulating and assessing financial and statistical result.

Table 4:1

Summary of Financial Statement of NTC (Rs in thousands)

PARTICULARS	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Total Assets	20092408	21764877	25281824	29892993	33221350	35572772	39351406
Total Long Term Liabilities	2218105	952351	299990	233780	11250	24239	0
Total Net Worth	12881717	14773937	16761248	19368044	20438196	20684945	23549579
Total Capital Employed	15099822	15726288	17061238	19601824	20449446	20729184	23549579
Total Operating Revenue (Sales)	4956376	5487179	6159520	7208087	8309936	8584144	10413655
Total Revenue	5328382	5928648	6555992	7669284	8852726	9194297	11058915
Total Operating Expenses	2453822	2885633	3235929	3576165	4302059	4272768	4215188
Bonus and Incentive Package	220692	278221	306213	301639	309212	281712	322040
EBIT	3144468	3186669	3358470	4109074	4553959	4922225	6844835
Interest on Long Term Debts	269908	143654	38407	15955	3292	696	1108
Net Profit Before Tax	2874560	3043015	3320063	4093119	4550667	4921529	6843727
Tax	702081	761018	852133	1005337	1260550	1379068	1907080
Net Profit After Tax	2172479	2281997	2467930	3087782	3290117	3542461	4936647
Average Tax Rate	0.24424	0.250087	0.256662	0.024562	0.277003	0.280211	0.278661
After Tax Interest	203985.8	107728	28549.39	12036.19	2380.1	500.97	799.24
Total Cost	2783897	3205182	3651590	4120305	5019819	5041683	6122268
Total Cost	2783897	3205182	3651590	4120305	5019819	5041683	6122268

In this study, the data are presented, analyzed and interpreted on the basis of research questions. The analysis part begins with a brief overview of financial position/performance indicators of the firm.

The table summarizes the key economic figures of NTC for the study period. The analysis follows would help analyze the strengths and weaknesses of the

corporation and causes of the problem/weaknesses so that some recommendations could be made.

The different type of tools and technique that has been used to analyze the data is as follows:

(i) Ratio Analysis (ii) Trend Analysis (iii) Correlation/Regression Analysis.

4.2 Profitability Ratio

4.2.1 Net Profit Margin

The profit margin measures the relationship between profit and sales and indicates management's efficiency in manufacturing, administering and selling the product. This ratio is the overall measure of the firm's ability to turn each rupee sales into net profit. A high profit margin would ensure adequate return to the owners as well as enable the firm to withstand adverse economic conditions. A low profit margin has the opposite implications. However, a firm with low profit margin can earn a high rate of return on investment if it has a higher inventory turnover. The net profit margin is measured by dividing profit after taxes by sales.

Table : 4.2
Net Profit Margin Ratio of NTC (Rs in thousands)

Fiscal Year	NPAT	Sales	NP Margin	Trend Values
1999/00	2172479	4956376	0.438	0.439
2000/01	2281997	5487179	0.416	0.442
2001/02	2467930	6159520	0.401	0.445
2002/03	3087782	7208087	0.428	0.448
2003/04	3290117	8309936	0.396	0.451
2004/05	3542461	8584144	0.413	0.454
2005/06	4936647	10413655	0.474	0.457
Average of Net Profit Margin Ratio			0.424	

Straight line trend of the net profit margin ratio is:

$$\text{Estimated } y = 0.436 + 0.003(X)$$

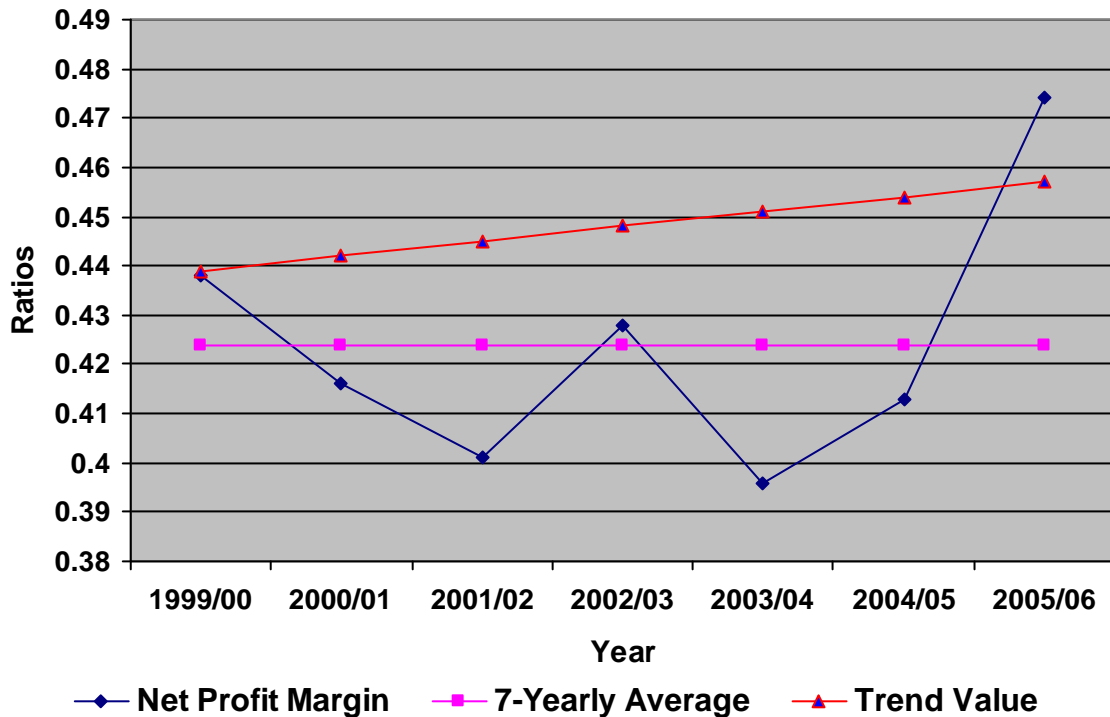
When $X=8$, estimated $y = 0.46$ i. e. Expected NPM for next year (year=8)

Where, Y = estimate of the **Net Profit Margin Ratio**

X = measure of time when base year 1999/00 = 1

Figure : 4.1

Net Profit Margin Ratio of NTC



Above figures show that the average of the NPM ratio of NTC for past seven years is 42.4% which means each 100 rupees sale is contributing 42.4 rupees for rewarding the owners / shareholders. Though the ratio seems stable over time, but for the second 2 years, it is decreasing continuously which should be the real cause of concern for the NTC. With the low turnover ratio, further decline in NPM is sure to have a negative impact on the equity holders' return.

The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 0.3% per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the profit margin level of the company in coming years should be less than the firm currently earning. Continuous increase in the cost composition of the company due to ongoing Maoist war is perhaps showing its effect on the profitability of the organisation.

Modified Net Profit Margin

Depending on the concept of profit employed by the company, Net Profit Margin Ratio can be calculated differently. The company's capital structure, non - operating income and non - operating expenses etc. are some factors that affect the earnings by its operation. So among different factors, capital structure is an important factor which can bring important variation in this ratio and can make comparison distorted. Because the conventional measure of net profit margin computed above is affected by the firms financing policy. So, for a true comparison free of biases of the leverage ratio variation, profit should also include the financing charges. Thus, the revised net profit margin can be computed in the following way:

$$\text{Net Profit Margin} = \frac{(\text{NPAT} + \text{Interest})}{\text{Sales}}$$

Table :4.3
Modified Net Profit Margin of NTC (Rs in thousands)

Fiscal Year	NPAT	Interest AT	NPAT Plus Interest AT	Sales	NP Margin	Trend Values
1999/00	2172479	203985.81	2251818.71	4956376	0.479	0.442
2000/01	2281997	107728.03	2299306.77	5487179	0.436	0.439
2001/02	2467930	28549.39	2353276.98	6159520	0.405	0.436
2002/03	3087782	12036.19	3099818.19	7208087	0.430	0.433
2003/04	3290117	2380.10	3292497.10	8309936	0.396	0.430
2004/05	3542461	500.97	3542961.97	8584144	0.413	0.427
2005/06	4936647	799.24	4936647	10413655	0.474	0.424
Average of Net Profit Margin Ratio					0.433	

Straight line trend of the modified net profit margin ratio is:

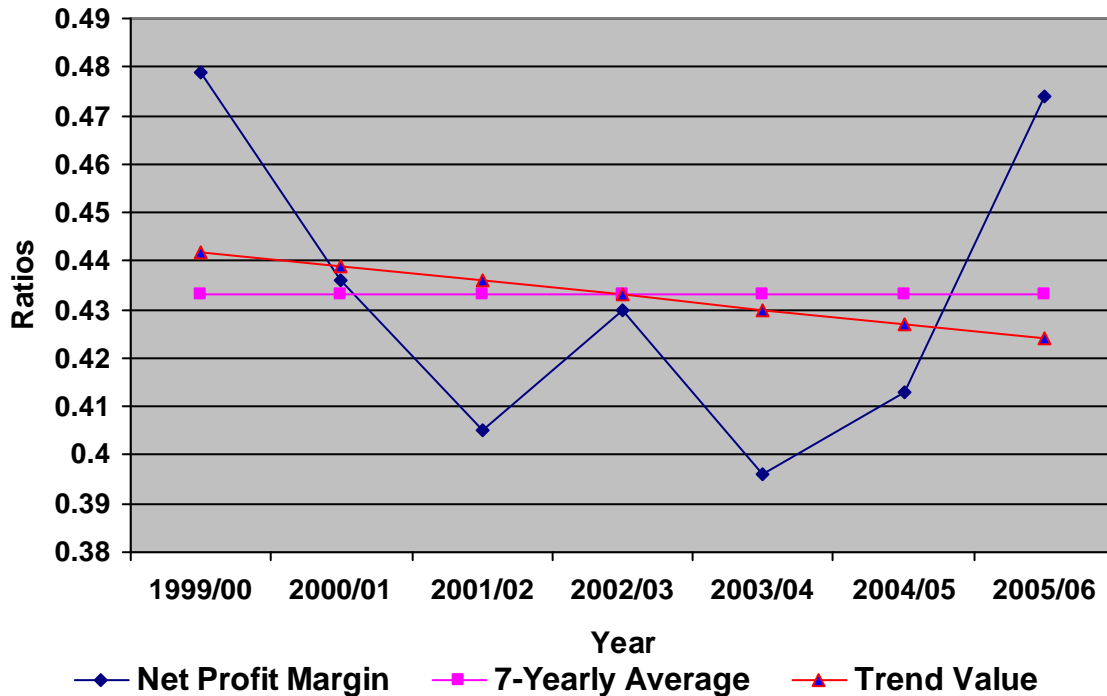
$$\text{Estimated } y = 0.445 - 0.003 (X)$$

When X=8, estimated y = 0.421 i. e. Expected Modified NPM Ratio for next year (year=8)

Where, Y= estimate of the Modified NPM Ratio

X= measure of time when base year 1999/00 = 1

Figure : 4.2
Modified Net Profit Margin



If we eliminate the effect of financing charges from the profit margin, the trend line deteriorates and turns into negative. The increase in the average ratio is marginal; i.e. about 43.3%. The range of deviation for the ratio now becomes 11.5% (i. e. the margin now ranges between a highest of 47.9% in FY 1999/00 to 39.6% in FY 2003/04. Besides these, the modified net profit margin ratio has similar strengths and weaknesses as general net profit margin ratio calculated above.

4.2.2 Operating Expenses Ratio

Operating expenses constitute service/product costs, administrative costs and selling costs. The operating expense ratio indicates the average aggregate variation in expense. In general, higher operating expenses Ratio means inefficiency due to higher operating cost relative to Sales. A lower operating expense Ratio is favorable since it will leave a higher amount of operating income to meet interest, taxes,

bonus, dividend and plough back of profit in the firm. It is measured by dividing Operating expenses by sales.

Table :4.4
Operating Expenses Ratio of NTC (Rs. in thousand)

Fiscal Year	Operating Expenses	Total Sales	Operating Exp. Ratio	Trend Values
1999/00	2453822	4956376	0.495	0.531
2000/01	2885633	5487179	0.526	0.519
2001/02	3235929	6159520	0.525	0.507
2002/03	3576165	7208087	0.496	0.495
2003/04	4302059	8309936	0.518	0.483
2004/05	4272768	8584144	0.498	0.471
2005/06	4215188	10413655	0.405	0.459
Average of Operating Expenses Ratio			0.495	

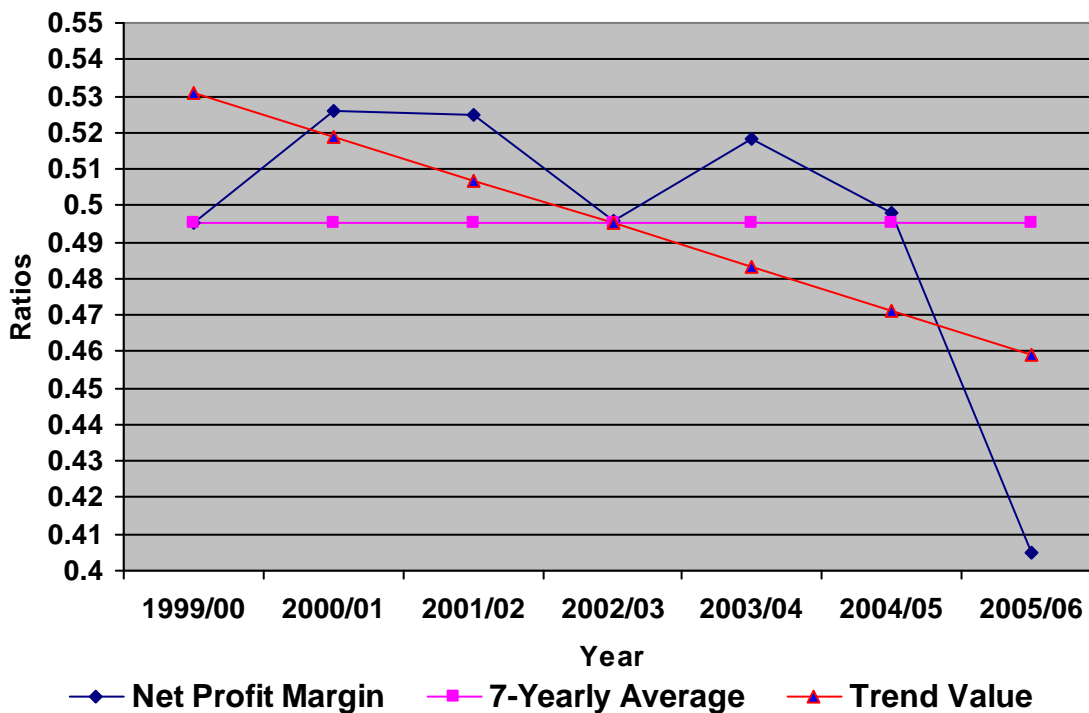
Straight line trend of the modified net profit margin ratio is:

$$\text{Estimated } y = 0.543 - 0.012 (X)$$

When X=8, estimated y = 0.447 i. e. Expected Modified NPM Ratio for next year (year=8) Where, Y= estimate of the Modified NPM Ratio

X= measure of time when base year 1999/00 = 1

Figure : 4.3
Operating Expenses Ratio of NTC



Though the operating expense ratio is relatively stable over time, but for the first 2-3 years, the Ratio is increasing continuously which should be the real cause of concern for the NTC. Unless the firm takes measures to tame the operating expenses, the situation may go out of control. The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 2.35 % per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the cost of operation should increase slowly but surely. Continuous increase in input prices due to inflation and the security situation not accompanied by the equal sales increase has brought this position.

4.2.3 Return on Assets Ratio

Here the profitability is measured in terms of profit and the assets. The ROA is also called return on investment (ROI). The conventional approach of calculating ROA/ ROI is to divide NPAT by investment/ assets. Assets represent pool of funds supplied by shareholders and lenders, while NPAT represents residue income of the owners. Therefore, it is conceptually unsound to use NPAT in the calculation of

ROA. Secondly, NPAT is affected by the capital structure. It is therefore more appropriate to use the following formula to compute the ROA/ ROI.

$$\text{Return on Assets} = \frac{(\text{NPAT} + \text{Interest})}{\text{Total Assets}}$$

NPAT = Net Profit After Tax

Table : 4.5

Return on Assets (ROA) Ratio of NTC (Rs in thousand)

Fiscal Year	NPAT	Interest AT	NPAT Plus Interest AT	Total Assets	ROA	Trend Values
1999/00	2172479	203985.81	2376464.81	20092408	0.118	0.095
2000/01	2281997	107728.03	2389725.03	21764877	0.110	0.095
2001/02	2467930	28549.39	2496479.39	25281824	0.099	0.096
2002/03	3087782	12036.19	3099818.19	29892993	0.104	0.096
2003/04	3290117	2380.10	3292497.10	32221350	0.102	0.096
2004/05	3542461	500.97	3542961.97	35572772	0.100	0.096
2005/06	4936647	799.24	4937446.24	39351406	0.125	0.096
Average of Return on Assets					0.108	

Straight line trend of the ratio is:

$$\text{Estimated } y = 0.095 + 0.002 (X)$$

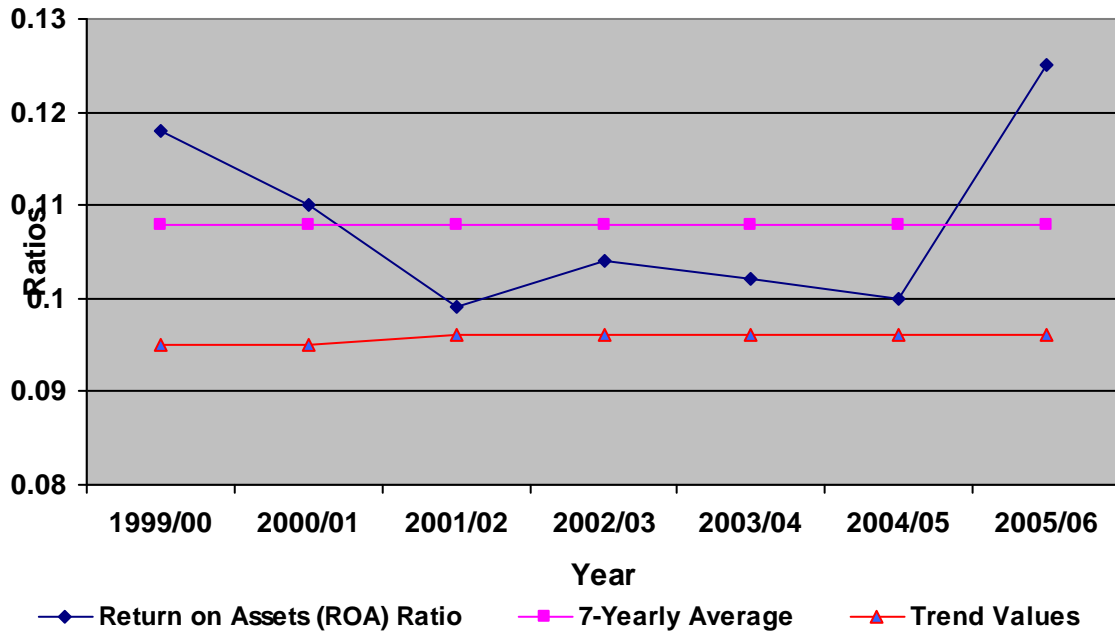
When X=8, estimated y = 0.111 i. e. Expected ROA Ratio for next year (year=8)

Where, Y= estimate of the Return on Assets Ratio

X= measure of time when base year 1999/00 = 1

Figure : 4.4

Return on Assets (ROA) Ratio of NTC



The above figures show that the average ROA of NTC for the study period is 10.8%. Given the average interest rate of 8.79% (Cost of the loan is taken from summary of the financial statements, page no 57. The average cost is $(12.2+15.1+12.8+6.80+2.93+2.90+8.80)/7=8.79\%$)

Before tax, this is not bad. The Ratio seems to be a little volatile as it ranges from 11.8% in 1999/00 to 9.6% in 2001/02. But the real problem is that the actual trend of this ratio is showing downward movement particularly in the most recent years. The average ratio of 10.8% indicates that each 100 rupees of investment in assets is generating a profit of Rs. 10.80. The actual trend line is humped. The straight line trend fitted on the basis of least square method shows a long run positive growth rate of 0.02% per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the total assets return level of the company should further decline, albeit slowly, in the coming years. Continuous expansion of its' assets over the recent years followed by marginal increase/decrease in profit of the corporation over the most recent years has primarily caused the ROA to take this downward trend.

4.2.4 Return on Capital Employed (ROCE)

The relationship between the after tax return earned by both equity holder and lender and the capital they provided indicates the efficiency of management for capital utilization. The ratio is similar to the ROA except in one respect. Here the profits are related to capital employed. The funds employed in net assets or the funds financed by permanent sources are known as capital employed. This ratio shows the effectiveness of management in generating profit by the utilization of available capital. Higher the ratio, the more efficient is the use of capital employed. It is calculated as follows:

$$\text{ROCE} = \frac{\text{NPAT} + \text{after Tax Interest on Long-term Debt}}{\text{Capital Employed}}$$

Table : 4.6
Return on Capital Employed (ROCE) Ratio of NTC (Rs in thousand)

Fiscal Year	NPAT	Interest AT	NPAT Plus Interest AT	Capital Employed	ROCE	Trend Values
1999/00	2172479	203985.81	2376464.81	15099822	0.157	0.203
2000/01	2281997	107728.03	2389725.03	15726288	0.152	0.188
2001/02	2467930	28549.39	2496479.39	17061238	0.146	0.173
2002/03	3087782	12036.19	3099818.19	19601824	0.158	0.158
2003/04	3290117	2380.10	3292497.10	20449446	0.161	0.143
2004/05	3542461	500.97	3542961.97	20709184	0.171	0.128
2005/06	4936647	799.24	4936647	23549579	0.210	0.113
Average of Return on Capital Employed					0.135	

Straight line trend of the ratio is:

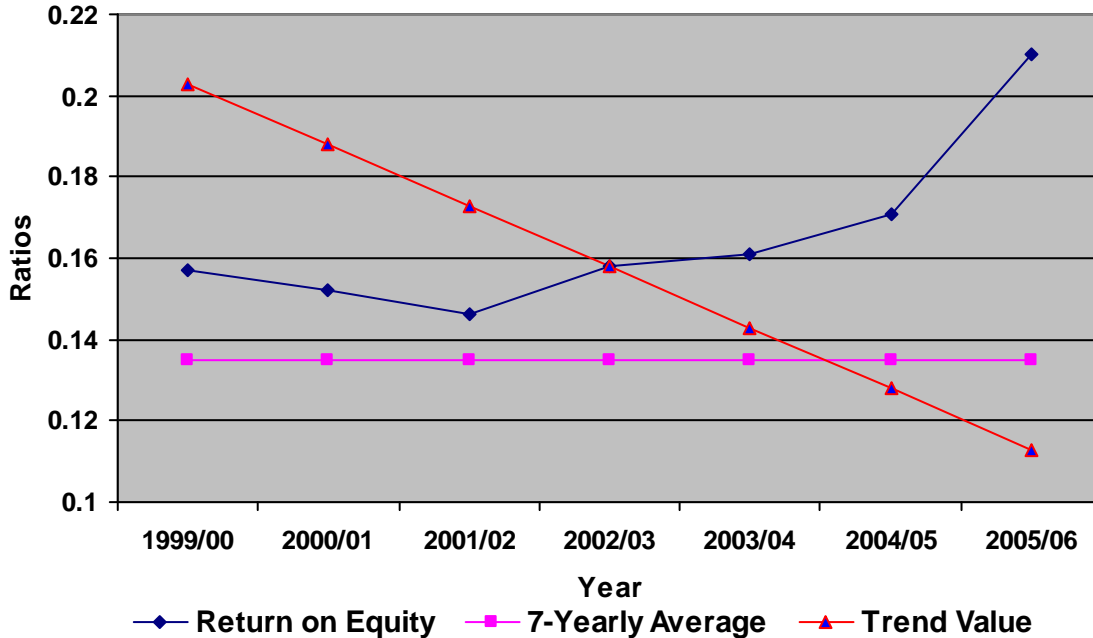
$$\text{Estimated } y = 0.218 - 0.015 (X)$$

When X=8, estimated y = 0.098 i. e. Expected ROCE Ratio for next year (year=8)

Where, Y= estimate of the ROCE Ratio

X= measure of time when base year 1999/00 = 1

Figure : 4.5
Return on Capital Employed (ROCE) Ratio of NTC



The above figures show that the average ROCE of NTC for the study period is 13.5%. As is the case with ROA, this is good if we compare this return with the cost of debt. But the past trend of this ratio shows clearly downward trend as it is the case with ROA. Therefore, it can be safely said that the return to the long term stakeholders are better than the return earned by its assets assuming that cost of the short-term sources are negligible.

The straight line trend fitted on the basis of least square method shows a long run negligible negative growth rate of 0.15 % per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the return level of the long term capital employed by the company should increase marginally in coming years.

4.2.5 Return on Equity (ROE)

The return on shareholders' equity (ROSE) indicates how well the company's management is able to provide return to its owners. The return on common stock is

not fixed. The residue of the earnings, on which the stockholders have claim, may be distributed to them or retained in the business. Nevertheless, the net profit after taxes represents their return. The shareholders' equity includes **Total of Equity Capital, Reserve & Surplus minus Deferred Expenditure**. ROSE is regarded as an important measure because it reflects the productivity of shareholders' capitals well as the operational efficiency of management. We use the following formula to calculate ROE.

$$\text{Return on Equity (ROE)} = \frac{\text{Net Profit after Tax (NPAT)}}{\text{Net Worth}}$$

Table - 4.7

Return on Equity (ROE) Ratio of NTC (Rs in thousand)

Fiscal Year	NPAT	NET WORTH	ROE	Trend Values
1999/00	2172479	12881717	0.169	0.185
2000/01	2281997	14773937	0.154	0.169
2001/02	2467930	16761248	0.147	0.153
2002/03	3087782	19368044	0.159	0.137
2003/04	3290117	20438196	0.161	0.121
2004/05	3542461	20684945	0.171	0.105
2005/06	4936647	23549579	0.210	0.089
Average of Return on Equity (ROE) Ratio			0.137	

Straight line trend of the ratio is:

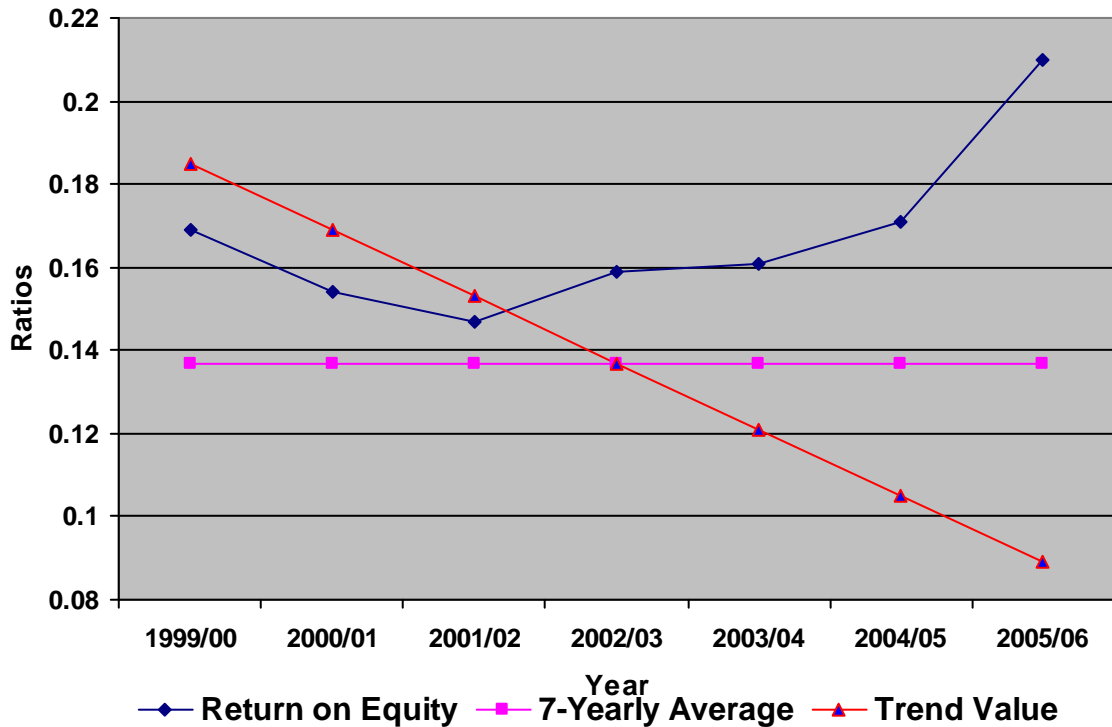
$$\text{Estimated } y = 0.201 - 0.016 (X)$$

When X=8, estimated y = 0.073 i. e. Expected ROE Ratio for next year (year=8)

Where, Y= estimate of the Return on Equity Ratio

X= measure of time when base year 1999/00=1

Figure : 4.6
Return on Equity (ROE) Ratio of NTC



The above figures show the ROSE of NTC for past 7 years. The average ratio for the 7-year period is 13.7%, which indicates that the equity holders of NTC earned 13.7 Rupees of return on their investment of Rs. 100 over the last 7 years, on average. It is obvious from the table that after the initial 3 years of the study period the poor ROSE for the final of the two years has been satisfactory because that the average is very good but because that the direction of the movement is positive. As indicated by ROCE trend, the management cannot be content with achieving the current level of the return for equity. The return in previous years are eroded because of the heavy losses suffered by the internal uprisings that destroy its key structures all over the country and of course because of the decrease in the level of debt financing that sharply reduced the benefits of the leverage. So, NTC has to take measures to make the Ratio more stable in future which should increase the confidence of the owners.

The straight line trend fitted on the basis of least square method shows a long run negative growth rate of 0.16 % per year for this ratio. If this ratio is to move as per the fitted trend line in future, it can be expected that the equity holders' return would further go down from its current level.

4.3.1 Correlation and regression Analysis of Investments (Total Assets) and Profit

The relationship between Investment and profit is measured and tested by Karl Pearson's Co-efficient of Correlation. A positive correlation here would imply that the company maintains a stable growth (or decline) in its profit in line with its investment increase (or decrease). Insignificant or negative value would point out the weakness of management to keep the profit in line with the investments i.e. it points to the fact that the corporation's expansion may not be giving desirable results. The regression equation would develop a function using which we can predict what the size of profit would be in the coming years with a planned additional investment in Assets. The calculation of this correlation and regression equation is shown as follows:

Table – 4.8
Least Squire table of Investments and Profit

Fiscal Year	Investments (X) (ooo' omitted)	Profit (Y) (ooo' omitted)	X ²	Y ²	XY
1999/00	20092408	2172479	403704859238464	4719665005441	43650334439432
2000/01	21764877	2281997	473709870825129	5207510308009	49667384019369
2000/02	25281824	2467930	639170624766976	6090678484900	62393771904320
2002/03	29892993	3087782	893591030498049	9534397679524	92303045711526
2003/04	33221350	3290117	1103658095822500	10824869873689	109302128397950
2004/05	35572772	3542461	1265422107763980	12549029936521	126015157471892
2005/06	39351406	4936647	1548533154176840	24370483602609	194264000375682
	205177630	21779413	6327789743091940	73296634890693	677595822320171

Now, the Karl Pearson's co-efficient of correlation(r) is given by

$$r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$r = \frac{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}{[6 \times 483331821944489 - 165826224 \times 16842766]} \times \frac{[6 \times 4779256588915100 - (165826224)^2]}{[6 \times 4892615288084 - (16842766)^2]}$$

$$r = 0.99242148$$

Calculation of Probable error,

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

$$P.E. = \frac{0.6745[1-(0.99242148)^2]}{\sqrt{6}}$$

$$P.E. = 0.00415788$$

Summary of Computations

$$r = 0.99242148$$

$$P.E. = 0.00415788$$

$$|r| > P.E.$$

$$|r| > 6 \times P.E. \text{ \& } |r| > 0.5$$

The value of r is found to be 0.9924, which implies that there exists a high degree of positive correlation between Total investments and Total profit. This means the two variables move in the same direction; i.e. if Total investments increases then Total profit also increases, and vice-versa. The value of r is greater than 6 times the probable error and higher than +0.5; means that there is significant degree of positive correlation between the variables i.e. the value of r is significant. Hence, the relationship between Total investments and Total profit is that of a cause and effect one.

The calculations of the regression co-efficient are given by:

$$b = \frac{n \sum XY - \sum X \sum Y}{[n \sum X^2 - (\sum X)^2]}$$

$$b = \frac{6 \times 483331821944489 - 165826224 \times 16842766}{[6 \times 4779256588915100 - (165826224)^2]}$$

$$b = 0.09090925$$

$$a = \frac{\sum x^2 y - \sum x \sum xy}{N \sum x^2 - (\sum x)^2}$$

$$a = \frac{4779256588915100 \times 16842766 - 165826224 \times 483331821944489}{6 \times 4779256588915100 - (165826224)^2}$$

$$a = 294604.60$$

Hence the regression equation of Profits (Y) on Investments (X) is given by:

$$= 294604.60 + 0.09090925 \times (X)$$

The value of B is found to be 0.09090925, which means that, on average, 1 unit change in Total Investment (Asset) would result in 0.091 unit change in the net profit of NTC. Given the capital budget plan of the NTC for coming years, we can use the above equation to estimate what the profit of the NTC would likely to be in the coming years.

4.3.2 Correlation and Regression Analysis of Sales Revenue and Cost :

The relationship between Sales Revenue and Cost is measured and tested by Karl Pearson's Co-efficient of Correlation. A positive correlation here would imply that most of the costs of the company are of variable nature. A low positive correlation would imply that the average cost would go down as the volume expands. A negative correlation, which is highly unlikely, would point out that cost of the company decreases with the increase in sales volume and vice versa. The regression equation would develop a function, with the help of which, we can predict what the amount of cost would be in the coming years with various predicted sales levels. The calculation of this correlation and regression equation is shown as follows:

Table – 4.9

Least Squire table of Sales Revenue and Cost

Fiscal Year	Sales Revenue (X) (000' omitted)	Total Costs (Y) (000' omitted)	X ²	Y ²	XY
1999/00	4956376	2783897	24565663053376	7750082506609	13798040277272
2000/01	5487179	3205182	30109133378041	10273191653124	17587407361578
2001/02	6159520	3691590	37939686630400	13627836728100	22738422436800
2002/03	7208087	4120305	51956518199569	16976913293025	29699516906535
2003/04	8309936	5019819	69055036324096	25198582792761	41714374621584
2004/05	8584144	5041683	73687528212736	25418567472489	43278532874352
2005/06	10413655	6822268	108444210459025	46543340663824	71044745269540
	51118897	30684744	395757776257243	145788515109932	239861039747661

Now, the Karl Pearson's co-efficient of correlation(r) is given by

$$r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

$$r = \frac{6 \times 168816294478121 - 40705242 \times 23862476}{\sqrt{[6 \times 287313565798218 - (40705242)^2] \times [6 \times 99245174446108 - (23862476)^2]}}$$

$$r = 0.995233382$$

Calculation of Probable error,

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

$$P.E. = \frac{0.6745[1-(0.995233382)^2]}{\sqrt{6}}$$

$$P.E. = 0.002618848$$

Summary of Computations

r = 0.995233382

$$\text{P.E.} = 0.002618848$$

$$|r| > \text{P.E.}$$

$$|r| > 6 \times \text{P.E.} \ \& \ |r| > 0.5$$

The value of r is found to be 0.9952, which implies that there exists a high degree of positive correlation between Sales Revenue and Cost. This means the two variables move in the same direction; i.e. if Sales Revenue increases then Cost also increases, and vice-versa. The value of r is greater than 6 times the probable error and higher than +0.5; means that there is significant degree of positive correlation between the variables i.e. the value of r is significant. Hence, the relationship between Total loan and Total liabilities is that of a cause and effect one.

The calculations of the regression co-efficient are given by:

$$b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2}$$

$$b = \frac{6 \times 168816294478121 - 40705242 \times 23862476}{6 \times 287313565798218 - (40705242)^2}$$

$$b = 0.62077372$$

$$a = \frac{\sum x^2 y - \sum x \sum xy}{N \sum x^2 - (\sum x)^2}$$

$$a = \frac{287313565798218 \times 23862476 - 40705242 \times 168816294478121}{6 \times 287313565798218 - (40705242)^2}$$

$$a = -234378.10$$

Hence the regression equation of Costs (Y) on Sales (X) is given by:

$$= -234378.10 + 0.62077372 \times (X)$$

$$[N \sum X^2 - (\sum X)^2] [N \sum Y^2 - (\sum Y)^2]$$

$$r = \frac{6 \times 1171637589265030 - 165826224 \times 40705242}{\sqrt{[6 \times 4779256588915100 - (165826224)^2] \times [6 \times 287313565798218 - (40705242)^2]}}$$

$$r = 0.996653323$$

Calculation of Probable error,

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

$$\text{P.E.} = \frac{0.6745[1-(0.996653323)^2]}{\sqrt{6}}$$

$$\text{P.E.} = 0.001840021$$

Summary of Computations

$$r = 0.996653323$$

$$\text{P.E.} = 0.001840021$$

$$|r| > \text{PE}$$

$$|r| > 6 \times \text{P.E.} \ \& \ |r| > 0.5$$

The value of r is found to be 0.9966, which implies that there exists a high degree of positive correlation between Investments and Sales. This means the two variables move in the same direction; i.e. if Investments increases then Sales also increases, and vice-versa. The value of r is greater than 6 times the probable error and higher than +0.5; means that there is significant degree of positive correlation between the variables i.e. the value of r is significant. Hence, the relationship between Total loan and Total liabilities is that of a cause and affect one.

The calculations of the regression co-efficient are given by:

$$b = \frac{N \sum XY - \sum X \sum Y}{N \sum X^2 - (\sum X)^2}$$

$$b = \frac{6 \times 1171637589265030 - 165826224 \times 40705242}{\dots}$$

$$6 \times 4779256588915100 - (165826224)^2$$

$$b = 0.23770664$$

$$a = \frac{\sum x^2 y - \sum x \sum xy}{N \sum x^2 - (\sum x)^2}$$

$$a = \frac{4779256588915100 \times 40705242 - 165826224 \times 1171637589265030}{6 \times 4779256588915100 - (165826224)^2}$$

$$a = \frac{252558707600877000000}{1177202967392440}$$

$$a = 214541.34$$

Hence the regression equation of Investments (Y) on Sales (X) is given by:

$$= 214541.34 + 0.23770664 \times (X)$$

The value of B is found to be 0.23770664, which means that, on average, 100 rupees increase in assets investment would result in 23.77 rupees increase in sales revenue of NTC. Given the capital budget forecasts of the NTC for coming years, we can use the above equation to estimate what the volume level of the NTC would likely to be in the coming years.

4.4 Major Findings of the Study

The major findings of this study as related in analysis are summarized hereunder.

-) During the Study Period, the computations show that the Profit Margin upon sales is favorable. Net Profit Margin Ratio of NTC is 0.424 in an average, which indicates the good performance. The average ratio of 0.42 indicates that each 100 rupees sale is contributing 42 rupees for rewarding the owners.

- J The computations show that the average of the O-E ratio of NTC for past seven years is 49.5 Percentage. The operating cost is increased due to repair & maintenance of destroyed tower equipments. The higher Operating Expenses Ratio shows the increases in Operating Expenses and decrease in company capacity.
- J The calculation shows that the average ROA of NTC for the study period is 10.8%. The average ratio of 10.8% indicates that each 100 rupees of investment in assets is generating a profit of Rs. 10.80.
- J The computations show that the average ROCE of NTC for the study period is 13.5%. The average ratio of 13.5% indicates that each 100 rupees of long term fund employed by the company is generating after tax profit of 13.5 rupees.
- J The calculation shows the average ROE ratio of NTC for past 7 years period is around 13.7%, which indicates that the equity holders of NTC earned 14 rupees of return on their investment of Rs. 100 over the last 7 years, on average.
- J The Karl Pearson's co-efficient of correlation between Investment and Profit (r) is found to be 0.9924, which implies that there exists a high degree of positive correlation between Total investments and Total profit. This means the two variables move in the same direction; i.e. if Total investments increases then Total profit also increases, and vice-versa.
- J The regression equation shows that, on average, 100 Rupees change in Total Investment (Asset) would result in 9.1 Rupees changes in the net profit of NTC.
- J The Karl Pearson's co-efficient of correlation between Sales Revenue and Cost (r) is found to be 0.9952, which implies that there exists a high degree of positive correlation between Sales Revenue and Cost. This means the two

variables move in the same direction; i.e. if Sales Revenue increases then Cost also increases, and vice-versa.

-) The regression equation shows that, on average, 100 rupees change in volume (sales) would result in 62.08 Rupees change in the total cost of NTC.
-) The Karl Pearson's co-efficient of correlation between Investment and Sales (r) is found to be 0.9966, which implies that there exists a high degree of positive correlation between Investments and Sales. This means the two variables move in the same direction; i.e. if Investments increases then Sales also increases, and vice-versa.
-) The regression equation shows that, on average, 100 rupees increase in assets investment would result in 23.77 rupees increase in sales revenue of NTC.

Chapter – Five

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The revolutionary development in the information and communication technologies have made possible the modern means of communication to bring to the doorstep and common people. To be able to cope with the situation it is important that Nepal Telecom should maintain its financial health and expands its activities to remain the leader. These factors have required to analysis of the profitability position of NTC like its revenue, expenditure and cash flow requirement. To forecast the degree of risk, the organization's financial statement should be analyzed carefully. Analysis of Profitability position and performance is a crucial part of financial decision making process of a business enterprise. Poor financial management affects adversely on liquidity, turnover and profitability. It is required to measure the profitability position of the enterprise periodically in order to ensure smooth functioning of an enterprise.

5.2 Conclusion

The higher Net Profit Ratio (0.42) is an indication of the higher overall efficiency of the company and better utilization of total recourses.

The higher Operating Expenses Ratio (0.49) shows the increase in Operating Expenses and decrease in company capacity. The cost composition was increased by on going Maoist war (repair & maintenance of destroyed tower equipments) and competition market. Although operating expenses Ratio is increased, NTC able to generate higher operating income which is sufficient to meet the interest, dividend and other expenses.

The Return on Assets (0.108) shows that the available source and tools are employed efficiently.

Return on Capital Employed Ratio (0.135) shows the efficiency of the company on the utilization of total capital.

Return on Equity ratio (0.137) indicates that the common shareholders of NTC earned better return on their investment.

The Karl Pearson's co-efficient of correlation between Investment and Profit (r) is found to be 0.9924, means the two variables move in the same direction; i.e. if Total investments increases then Total profit also increases, and vice-versa.

The Karl Pearson's co-efficient of correlation between Sales Revenue and Cost (r) is found to be 0.9952, which means the two variables move in the same direction; i.e. if Sales Revenue increases then Cost also increases, and vice-versa.

The Karl Pearson's co-efficient of correlation between Investment and Sales (r) is found to be 0.9966, which means the two variables move in the same direction; i.e. if Investments increases then Sales also increases, and vice-versa.

NTC is in growing stage. It is able to cover near about 70% Nepalese market by its service. Providing service of NTC is also growing. Political instability was a major problem for first four years of study period. Each government has had its own priorities, which differ from each other. Even though, the profit of the company is in increasing tendency.

On the basis of the research, the researcher comes to the conclusion that the profitability position of the NTC has satisfactory results. This shows that at the beginning year of research, NTC had been monopoly market in telecom sector of Nepal. At that time NTC was good financial position and the financial capacity. The company shows maximum profit. From the second year to end of research, continuous increase in the cost composition of company due to ongoing load shedding, new technologies and competition market are showing its effect on the profitability of the company. So that NTC is in decreasing trends in most of ratios of profitability. Instead of NTC is maintaining the good financial position and the financial capacity of the firm. The sales revenue has increased each year.

It is concluded that this is the only one company which is in profitability and renown for satisfactory services around the South Asian region. The company should be far away from unhealthy political influences. NTA has issued four

licenses for providing different telecom operator within the country. But so far only two are operation in urban and other is in rural besides NTC. Nepal Telecom is now focusing more on management and marketing issues. It has to minimize the staff by bringing technology with new innovation.

5.3 Recommendations

Based on the major findings of the study of profitability position evaluation of Nepal Telecom, some suggestions or recommendations have been forwarded in this part. It is hoped that these recommendations will prove to be useful to the management of the company and concerned offices, institutions and individuals.

-) Most of the Nepalese PEs including NTC is suffering form unhealthy working conditions. I would like to suggest them to create a healthy working environment and environment of mutual trust and mutual co-operation.
-) In Nepalese PEs including NTC, it seems that the government directly or indirectly interfere the settings of strategic plans. For the improvement of performance, the interference should be free in setting the strategies as well as formulating policies.
-) There should be continuous flow of information among various levels of management and various groups of employees. The goal, objectives, strategies should be carefully communicated to the lower level management.
-) NTC should adopt participatory management policy as well as management by objective policy, so as to make the employees feel that they are working for their own organization.
-) Company should have in depth analysis of its strengths and weaknesses. Only then it can overcome the weaknesses by using the strengths.
-) The financial position of the company should be timely evaluated through Ratio analysis and other relevant tools.

-) Overstaffing automatically creates increase in unnecessary operational cost. So, the company has to build its management to be based on changing technology.
-) The company should reduce its over staffing either by providing training opportunities to untrained manpower or by hiring skilled and well trained manpower from outside.
-) The company must reorganize its personnel department and should stop recruitment of unskilled staffs. If the company provide training to its staffs and make the technology based company, then it can succeed to reduce one of its disadvantages of overstaffing.
-) It helps to increase the benefits and incentives to the staffs that will increase their efficiency. As a result, it leads to the minimization of the operating costs and maximization of profits. If the company earns more profit, it enjoys high goodwill, market share as well as improved image of the company.
-) To increase the net profit, the organization should control the operating as well as non - operating expenses. There are some unnecessary and wasteful expenses which can be brought down. For this, the management and staffs of NTC needs to be more careful in cost factor.
-) The installed capacity has not been fully utilized in NTC. If the installed capacity is utilized, the operating expenses will go down.

Bibliography

Adhikari Prem Lal (1995) "**An Evaluation of Financial Position of Nepal Telecommunications Corporation.**" An unpublished Thesis Central Department of Management T.U.

Annual Report (1998/99) "**Accountability & control of PEs**" (Silver Jubilee Issue)

Asian Organization of Supreme Audit Institution (ASOSAI) "**Accountability & control of PEs**"

Bajracharya Beena, (2040)"**An evaluation study of telecommunication development in Nepal**". An unpublished Master Degree Thesis, submitted to the institute of Humanities and Social Science for the Degree (MA) in Economics, Instruction Committee, Kathmandu

Fred N Karlinger, Holf Rinchart & Winston(1991). **Fundamental of Behavioral Research** INC. USA

Gupta S.P., (1983) **Elementary Statistical Method** S. Chanda & Sons,

Howard B.B. and Upton M., (1961) **Introduction to Business Finance** (New York: Mc Graw-Hill.,

Joshi B.R.D., (1989) "**Prashasan**" The journal of Public Administration, Vol. 21, no. 156th issue.

Khan M.Y. & Jain P.K.(1994), **Financial Management** Tata McGraw - Hill Publishing Company Limited,

Laxmi Narayan, (1980) **Principles and Practice of public Enterprise Management** (New Delhi: S.Chand & Co.Ram Nagar,)

Mathur B.P.(1992), Public **Enterprise management**.(Mac. Millan India Ltd. 1st edition),

Neupane Dipendra Kumar, (2001) "**A study on Profit Planning in Nepal Telecommunications Corporation**" An unpublished Master Degree Thesis, submitted to the research department of Nepal Commerce Campus, Minbhawan, Kathmandu,

NTC's 5th Anniversary Souvenir, 2065

NTC's Annual report, 2003

NTC's Annual report, 2005

NTC's Annual report, 2007

NTC's MIS report, 2065

Pandey I.M.(1996), **Financial Management** Vikas Publishing House Pvt. Ltd., 7th revised edition,

Peter Rose, (1999) Commercial **Bank Management** (Singapore: Irwin Mcgaw Hill,

Pierce William B., (1978) **ITU, seminar on Rural Telecommunication** New Delhi VOL.1

Pokhrel Rajendra Kumar, (1997)"**Tariff structure of Nepal Telecommunications Corporation in Nepal**" A case study of Kathmandu valley, unpublished Master Degree Thesis, submitted to the Faculty of Humanities & Social Science for the Degree (MA) in economics,

Shakya Madan Kaji (2053): **NTC's 23rd Souvenir**

Sharma Madan Krishna, MK Sharma & Co.(Chartered Accountants) (1999)"**Report on Financial and Tariff Analysis of NTC**". The report for the Internal purpose of NTC Tariff Review Committee, submitted to NTC, Baluwatar, Kathmandu

Shrestha Manohar Krishna 1994, "**Revenue collection improvement in service delivery of NTC**" An unpublished Thesis, Central department of management. T.U.

Shrestha Purneshwor, 1990 "**Public Enterprise Management in Nepal**" 1st edition,

Sitaula Matrika Prasad, (1978) "**Telecommunication Development in Nepal**" An unpublished Thesis, TU Kirtipur

Tele Danmark Consult (1999) "**Nepal-Telecom sector Reform Project Final Report on Tariff Study Up-Dating Consultancy**"

Van Horne, J.C. (1998), **Financial Management & Policy** 10th edition, Prentice Hall of India,