

A CASE STUDY ON
FINANCIAL PERFORMANCE ANALYSIS
OF
FISHTAIL HOSPITAL & RESEARCH CENTER
PRIVATE LIMITED

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RECOMMENDATION

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and found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for degree in

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DECLARATION

I hereby declare that this work on “A CASE STUDY ON FINANCIAL PERFORMANCE OF FISHTAIL HOSPITAL & RESEARCH CENTER PRIVATED LIMITED” has not been submitted in candidature for any other degree. I will have no objection for the availability of this thesis for research purpose as literature review and other educational purpose.

March 2011

Kavita Bhattarai (Ghimire)

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ABBREVIATION

ADB	:	Asian Development Bank
ASC	:	Ambulatory Surgical Center
B.P.	:	Bishweswor Prasad
CA	:	Current Asset
CAH	:	Critical Access Hospital
CL	:	Current Liabilities
COGS	:	Cost of Goods Sold
DCOHR	:	Days Cash on Hand Ratio
EBIDA	:	Earning Before Interest Depreciation and Amortization
EBITDA	:	Earning Before Interest Tax Depreciation and Amortization
ECG	:	Electro Cardio Graph
ENT	:	Ear Nose Throat
EPS	:	Earning Per Share
FA	:	Fixed Asset
FATR	:	Fixed Assets Turnover Ratio
FHRC	:	Fishtail Hospital & Research Center
FY	:	Fiscal Year
GDP	:	Gross Domestic Product
IMF	:	International Monetary Fund
LTD	:	Long Term Debt
Ltd.	:	Limited
NPAT	:	Net Profit after Tax
NWC	:	Net Working Capital
OA	:	Other Assets
P.E.	:	Probable Error
Pvt.	:	Private
ROA	:	Return on Assets

ROE	:	Return on Equity
RRCs	:	Rural Referral Centers
SE	:	Shareholders Equity
T. U.	:	Tribhuvan University
USA	:	United States of America
V.D.C.	:	Village Development Committee
WC	:	Working Capital
WHO	:	World Health Organization

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Nepal is a South Asian small landlocked Himalayan country with rugged topography, situated in between two large countries i.e. India and China. They are large in size and economy. Its total area is 147181 square kilometer and population of approximately 30 million and growth rate 1.9% (ADB, December 31, 2009). Population lived below the international poverty line of U.S. \$ 1.25 a day is 55.5% (ADB, 2009). Ecologically, Nepal is commonly divided into three physiographic areas from east to west. They are the Mountain, the Hills and Plain (Terai). Nepal has a sub tropical to tropical climate. It is full of natural beauty, natural resources, and sufficient water resources. Nepal still has highly underdeveloped rural economy. About the 80% of Nepal's population are still lives in rural areas.¹ Per capita income of Nepal is U.S. \$536 (IMF, 2010 estimated) and U.S. \$ 427 (World Bank, 2009).² Industry and services covers 60% of GDP.³ Health and social work covers the 1.49% of Nepal's GDP and growth rate of 11.16% in the fiscal year 2008/2009.⁴

A healthy mind in a healthy body is the basic need of every individual, people, community, society and the whole nation. They are all demand the good health care. It helps to be physically fit, mentally alert, emotionally

¹ Asian Development Bank & Nepal, **Fact Sheet**. (December 31, 2009), 1, February 9, 2011 <http://www.adb.org/Documents/Fact_Sheets/Nep.pdf>.

²Wikipedia, the Free Encyclopedia, **List of Countries by GDP (Nominal) Per Capita**. 1, February 10, 2011<[http://en.wikipedia.org/wiki/List_of_countries_by_GDP_\(nominal\)_per_capita](http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(nominal)_per_capita)>.

³Navin Dahal et al./and others, "Competition Scenario in Nepal," **CUTS international** (March 2,2009):1-2. February 3, 2009<http://www.cuts-international.org/7up2/7up2_Nepal.pdf>.

⁴ Government of Nepal, National Planning Commission Secretariat, Central Bureau of Statistics, **Statistics Year Book 2009**:6-17.February 10,2011 < http://www.cbs.gov.np/NA_Estimate_2010.pdf >.

stable, socially harmonious and economically secured. Therefore many hospitals i.e. private, governmental, etc. have come into existence.

Hospital is an institution that is built, staffed, and equipped for the diagnosis of disease. It provides both medical and surgical treatment for the sick and injured patients and the housing facilities for indoor patients during the treatment process. The modern hospital also often serves as a center for investigation and for teaching. To better serve the wide ranging needs of the community, the modern hospital has often developed outpatient facilities as well as emergency, psychiatric; and rehabilitation services.

Hospitals have an important role in encouraging the good health care. Their influence depends on the accessibility, affordability, quality, availability and utilization of health services provided by it. Those are the best health services which are easily accessible both time-wise and distance-wise, can be afforded by all classes of society, and the people who utilize them of a minimum acceptable standard in keeping with the need of the users at each level, availability to all classes of society. A good hospital should have complete medical and surgical facilities including out-patient clinics, long term care facility, diagnostic facilities, administration and their inter-department relationships.

The hospital service industry is new for the context of Nepal. The health service industry includes many providers of service like different types of hospitals (for e.g. public, federal, for-profit or private, not-for profit), physicians, other professionals, skilled nursing facilities, long term care providers, home care services, pharmacies etc.

The Fishtail Hospital & Research Center Pvt. Ltd. is the first and one of the reputed among the private hospital in Pokhara which provides the most of all facilities those of private hospital. It is established in 2055 B.S. (1998 A.D.) under the government's rules and regulation for private hospital. It is started as 25 bed hospital with the 4 patient service department i.e. medical, surgical, gynecology and radiology, and with an operation theater, an ambulance service and laboratory. In its inception, it has 6 doctors and other

required 7 nurses, 2 administrative staffs, a driver and 9 helpers. Now it is running with 9 departments, 17 doctors, 9 nurses, 4 administrative staffs, 11 helpers, 2 drivers etc. The facilities available are laboratory, pharmacy, ECG, X-ray, endoscopy, ultra sonogram, etc. and indoor and outdoor services with free health camp to the cleft lip patients and 50% discount for elderly patient over 80 of age in all its services.

The main purpose of this hospital is to provide safe, standard and affordable health services to the people, to give support in different health camp and to research the problem related to health in this area and to train the middle level health manpower. To sustain in competitive environment with a good financial management in future financial health of hospital should be better. So, this study focuses on the financial performances of this hospital. Therefore, it examines and analyses its financial performance. It fully depends on the amount charges to the patient for the service used.

1.2 Focus of the study

Most organization has an assumption and inherent desires of continuous improvement in the quality of their services to give better performance in future. The organization needs to adopt positive practices to identify the development needs and to bridge the possible gaps on a continuous basis for the fulfillment of the desired target. For the better result on expectation and better utilization of financial resources, organization should involve deeply with suitable strategy, policy and their implementation in relation to financial aspects. So, the successful and dynamic organization should measure and evaluate their financial performance. Therefore, the study focuses on the overall financial performance of Fishtail Hospital & Research center Pvt. Ltd. through financial analysis and emphasizes to analyze of income and expenditure based on income statement and balance sheet.

1.3 Statement of the Problem

In order to provide standard and affordable health services and for its overall development, the financial performance should be better in the present competitive situation to sustain in future.

In this context, this study is trying to ascertain the financial performance of the hospital and investigate on following specific Problems:-

- a) What are the present sources of revenue of the hospital?
- b) What are the expenditure patterns?
- c) What is the trend in the revenue and expenditure?
- d) What is the financial performance of the hospital in terms of the liquidity ratios, activity/turnover ratios, debt management ratios and profitability ratios and their trend?

1.4 Objectives of the study

This study related to the hospital finance and its management. It concentrates on the financial management technique of the hospital. The specific objectives of the study are as follows:

- i) To analyze the revenue of FHRC.
- ii) To analyze the expenditure pattern of FHRC.
- iii) To analyze the trend of revenue and expenditure pattern.
- iv) To analyze financial performance in terms of the liquidity ratios, activity/turnover ratios, debt management ratios and profitability ratios and their trend.

1.5 Significance of the Study

Performance analysis is essential and important factor of every profitable and non-profitable organization. Better and satisfactory performance of organization indicates the effectiveness of the organization. The aim of the study is to gain knowledge and the research itself adds to the existing literature. The significance of the study is to identify the strength, soundness and effectiveness of financial performance of hospital. The proper

utilization of the financial resources leads the hospital towards high productivity in the present competitive world. The study assists the stakeholders in fulfilling their collective mission of maintaining stability and public confidence. The research will be important for future researchers, financial and service based organizations, students and other interested parties.

1.6 Delimitation of the Study

Every study has its limitations and delimitations. Thus this study also has some limitations and delimitations. They are:-

- a) The whole study is confined to the financial aspects of the FHRC only.
- b) It is based on secondary data of past 8 years (2058/59 to 2065/66) which is supported by primary data.
- c) This case study does not cover other private hospitals.
- d) The financial ratios used to evaluate the financial performance in manufacturing institution, are used in this study.

CHAPTER II

LITERATURE REVIEW

This chapter deals with the conceptual review and review of the related studies. The conceptual review relates with the various components of financial analysis. Review of related studies presents the review of dissertations, reports, articles and other related published and unpublished materials about the hospital finance.

2.1 Conceptual Review

This research deals with the meaning of finance, hospital concept and its evolution, historical background of private hospital in Pokhara, concept of financial performance analysis and its components.

2.1.1 Meaning of finance

The old concept of the finance is the science of money. After some period later it is known as the branch of economics. Nowadays, it emerged as a distinct field of study.

According to Van Horn, “Finance is concerned with the acquisition, finance and management of assets with some overall goal in mind. Thus the decision function of financial management can be broken down into three major areas: the investment, financing and management decision.”⁵

According to I. M. Pandey, “Financial management is that managerial activity which is concerned with the planning and controlling of the firms financial resources. Though it was a branch of economics till 1890 as a separate activity or discipline, it is of recent origin. Still, it has no unique body of knowledge of its own and draws heavily on economics for its

⁵ James C. Van Horne and John M. Wachowicz, *Fundamentals of Financial Management*, 9th ed. (New Delhi: Prentice Hall of India, 1997), pp. 2-3.

theoretical concept even today. In modern age finance is concerned with the financing decision, investment decision, dividend decision and liquidity decision.”⁶

According to Pradhan, “It was not too large ago that the subject of financial management emerged as an important functional area of business management. Not until the 1950’s that business world recognized the subject as separate discipline and gave due importance to it. During the early 1990’s, the scope of financial management was limited to the legal aspects of business investment and financing. The depression of the 1930’s warranted the financial management to focus on the bankruptcy, liquidation, reorganization and the regulation of security markets in developed countries.”⁷

He added, “Until the early part of the 1950’s, the subject matter of financial management was in primitive stage; it used to be purely descriptive subject, and was not oriented to problem solving. The focus was primarily on the various sources of capital and procedures of raising Capital. It was only in the part of 1950’s, as business activities started growing rapidly that the attention of management was drawn to focus more on competitiveness through efficient management resources. During the period from the 1960 to 1990 numerous theories, models and computer packages were developed.”⁸

Again he added “Today, it is not only a full fledged matured discipline, but it is considered to be the central part of the overall corporate management function as every business decision has financial implication.”⁹

Thus in modern business as well as the hospital industry, the subject *finance* stands on its own right, covering distinctive functional areas with its scope.

⁶ I.M Pandey, *Financial Management*, 9th ed. (New Delhi: Vikash Publishing House, 2005), pp.3-6.

⁷ Surendra Pradhan, *Basic of Financial Management*, 2nd ed. (Kathmandu: Educational Enterprise, 2000), pp.10-11.

⁸ Ibid.

⁹ Ibid.

2.1.2 Hospital concept and its evolution

The basic concept of hospital on WHO definition is: “A hospital is an integral part of a social and medical organization, the function of which is to provide for the population complete health care, both corrective and preventive and whose out patient services reach the family and its home environment, the hospital is also a center for health workers and bio-social research.”

The word hospital originates from the Latin hospice. In fact the word hospital, hotel and hostel all derive from the common Latin root hospice. The place or establishment where a guest is received was called the hospitium's or hospitale. The term hospital was different times been used to refer to an institution for the aged and infirm, a place of rest, a hostel where people lived as a small community, and an institution for the care of the sick and wounded. In its earliest form, the hospital was aimed at the care of the poor and destitute.¹⁰

In the early Greek and Roman civilizations, the temples of the Gods were used as hospitals. These hospitals were not separate entitles but formed an integral part of the temple. They considered the temples of Gods and their priests responsible for providing shelter and sustenance to the sick.¹¹

Health care has come to a long way since Florence Nightingale tended the wounded soldiers in the Crimean war. At that time there were no hospitals of the kind that we now have. Hospitals of the Christian era, run by religious orders, provided largely religious solace beside food and shelters, but little of medical care. In ancient India, hospitals existed in the sixth century albeit in the rudimentary form. Buddha is credited with having built hospitals for the crippled and the poor, and with having appointed a physician for every ten villages.¹²

¹⁰Trishna Dwa, “**Pediatric Hospital at Archalbot, Pokhara,**” (B.ARCH /302 / 01, Tribhuvan University, 2006), pp. 1-10.

¹¹ Ibid.

¹² Ibid.

Hence it took long period for the hospital to be at the present, today's hospital with all sophisticated equipments, well planned management, specialized doctors and nurses etc. The credit goes to all the started – right from the Greek and Roman priest to the Hippocrates (father of medicine), to the fathers, nuns and monks of Christian church, the Monasteries and to the Florence Nightingale (middle of the eighteen century) and so on.¹³

Health Service in Nepal

Health and hospitals are very important components of every nation. All nations have their own history of health and hospital development. It is very difficult to indentify the exact date of hospital development in Nepal as many areas of the Nepalese history are missing.¹⁴

Health and religion were interrelated in ancient days. All major religions had important role to develop and promote education and medicine. In earlier days the Christian Mission offices established in many countries had multiple roles and one of them was health and medicine. Medical doctors sent through the Christian Missions, introduced modern medicine hospitals in many parts of the world. In Nepal also the modern or allopathic medicine was introduced by Christian Missionaries in sixteenth century, which could not continue for long time because of religious, and to some extent political factors.¹⁵

Historians have divided Nepalese history into ancient (first century to 879 AD), medieval (879 AD to till control of the Kathmandu by King Prithvi Narayan Shah–1768 AD) and modern Nepal from 1769 AD onwards. The health development history also can be divided in the same way but the modern era for health should rather be considered from 1889 AD as a

¹³ Ibid.

¹⁴ Babu Ram Marasini, “ Health and Hospital Development in Nepal: Past and Present,” **Journal of Nepal Medical Association** 42(2003):306-307. February 13, 2011<[http://www.jnma.com.np/files/archive/2003/Vol.%2042,%20No.%20149%20\(2003\)/Health%20and%20Hospital%20Development%20in%20Nepal.pdf](http://www.jnma.com.np/files/archive/2003/Vol.%2042,%20No.%20149%20(2003)/Health%20and%20Hospital%20Development%20in%20Nepal.pdf)>.

¹⁵ Ibid.

landmark of establishing the hospitals by the Nepal government to provide health services to common people as a state initiative.¹⁶

The history of health and hospital development during ancient era dates back to the ancient Nepal or Lichchhavi period. In the reign of the Amshu Verma (605-620 AD) one of the historical document found in 604AD has mentioned about the Aarogyashala or hospital (probably Ayurvedic), but no elaborate explanations has been found. Descriptions of Aarogyashala can be found in the reign of the Lichchhavi Kings Narendra Dev (643-679 AD) and Man Dev (464-505 AD) too. Lichchhavi Kings also issued rules and directives to be followed by the general population on the safe motherhood practices. These directives were – separation of mother and baby before last rites are performed in case of death of the pregnant women with baby in utero, and identifying husband responsible for care of the pregnant and post natal wife and warning punishment in case of negligent behavior or death (Narendra Dev). Lastly, cutting umbilical cord immediately after the baby is born and not to wait till the placenta is expelled (Amshu Verma).¹⁷

In the medieval era no continuity of Aarogyashalas or hospitals established during the Lichchhavi period can be found. It can be presumed that the medicine became a family business rather than a state business after the Lichchhavi period. In the Malla period the King of the Kantipur, Pratap Malla (1641-1674AD) established a traditional medicine (Ayurvedic) dispensary for common people at Royal Palace complex in Hanumandhoka, Kathmandu. King Pratap Malla and Malla Kings of Bhaktapur and Patan encouraged Ayurvedic system of medicine by asking to prepare books in Ayurveda and creating opportunities for professional training. It is widely believed that the current Singh Darbar Baidyakhana or Traditional Medicine Manufacturing Plant is the continuity of the dispensary established earlier by the King Pratap Malla. Before being shifted to the current place it was shifted

¹⁶ Ibid.

¹⁷ Ibid.

in the Thapathali Darbar complex, residential palace of the then Prime Minister Jung Bahadur Rana.¹⁸

The first introduction of the modern medicine or allopathic system of medicine in Nepal was done by the Christian Missionaries working in Peking, China and Lhasa, Tibet. In 1661 AD Jesuit Father Grueber and Dorville and associates entered Nepal via Lhasa from Christian Mission office in Peking. At that time Pratap Malla was the King in Kantipur, Siddinarsingh Malla in Patan and Jagajyoti Malla in Bhaktapur. King Pratap Malla gave permission for the periodical epidemic of plague and cholera in Kathmandu, which were serious health problems. They started health service and received good appreciation from people of Kathmandu valley on preventing plague especially in children. The missionary Fathers used Kathmandu as the temporary station for to and fro travel to China or Tibet office. It has been mentioned in the history that in 1750s all three kingdoms of Kathmandu had Christian mission offices and medical clinics. At the time of movement of unification, second war broke in 1763 AD between the Kantipur and Gorkha at Kirtipur and Prince Soor Pratap Shah of Gorkha got injury in eye. The capuchin monk Michael Angelo was called and he treated the wounded prince.¹⁹

Before the unification of Nepal by Prithvi Narayan Shah, Nepalese society is still working hard for the welfare of the people and their family at the field of health. At that time , they used to cure the sick people by using Homeopathic (Ayurvedik) and traditional method(Dhami, Jhankri, Lama, Purohit Jharphuke, Baidhya) of treatment. DeRecanty has got permission to do business of allopathic medicine in the reign of Ranajit Malla in 1797 B.S. from the history of health service.²⁰

Development of modern surgical treatment method has started after the unification. The Pasture (the Christian religious person) had given health

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Rajendra Dhakal, *Swasthya Samanya Gyan*, 2nd ed. (Kathmandu: Makalu Books and Stationeries, 2003), pp. 42-44.

treatment for the wounded eye of Sworup Ratna (the brother of Prithivi Narayan Shah) around 1766/67 A.D. We get some information about the modern medicine by foreign inscription (Abhilekh), books written by foreigner like Oldfield (Sketches in Nepal), Kerk Patric, Father Judian Stonion, etc.²¹

After the seventeenth century war broke with India and an agreement was signed between the Nepal and British India governments in 1801 AD. Subsequently British residency got established in Kathmandu in 1802 AD. Prior to this there was no diplomatic mission in Nepal. Captain Knox as the resident and Dr FB Hamilton as the resident surgeon appointed for residency office in Nepal. After the Sugauli agreement signed between Nepal and India in 1815 AD and British residency was re-established in 1816 AD. It can be guessed that the British residents appointed at that time had some experience in medicine. This is supported by the paper published by resident Brian Hodson (1829-31 and 1833-1843 AD) in cholera and malaria in Nepal. It is also possible that a medical assistant might have been posted at that time.²²

Khokna Leprosy Asylum was the first health institution established by the state in 1857 AD to isolate the leprosy patients. As there was no treatment discovered for leprosy patients at that time, people with leprosy were just detained by the home department. At that time Surendra Bir Bikram Shah was the king and Jang Bahadur was the prime minister.²³

When he visited Britain (United Kingdom), Jung Bahadur Rana brought some medical equipments, machines and instruments with him because he inspired very much from the modern medical scientific technology. Dr. Oldfield worked in Nepal as a British Resident of Bengal Army in 1850A.D. and he gave medical treatment for Rana family as a family physician. “Dr. H.A. Oldfield also introduced vaccination in 1850 AD in

²¹ Ibid.

²² Babu Ram Marasini, “Health and Hospital Development in Nepal: Past and Present,” *Journal of Nepal Medical Association* 42 (2003):308. February 13, 2011 <[http://www.jnma.com.np/files/archive/2003/Vol.%2042,%20No.%20149%20\(2003\)/Health%20and%20Hospital %20Development%20in%20Nepal.pdf](http://www.jnma.com.np/files/archive/2003/Vol.%2042,%20No.%20149%20(2003)/Health%20and%20Hospital%20Development%20in%20Nepal.pdf) >

²³ Ibid.

Nepal for first time, with vaccination of the children of the family of the Prime Minister Jung Bahadur. Dr Wright replaced Dr Oldfield in the British residency.”²⁴ Major Ramsay had mentioned the cholera disease in his inscription of 20th August 1856A.D. (1913B.S.). Dhir Shamsheer had been cured by Dr. Adar Nath from Bengal in 1883A.D. The medical facility of immunization program for the children had given by Rajbaidhya in 1886 A.D. The King of Bajhang, Jay Prithvi Bahadur Shingh opened Khaga Dispensary for the people and brought doctors from Calcutta Medical College in 20th century.²⁵ Kharga Hospital was established in Bajhang by Jaya Prithvi Bahadur Singh from non-governmental sector during the tenure of the Chandra Shamsheer.²⁶

Bir Shamsheer (1885-1901 A.D.) helped to open the hospital for public in the British Resident compound premises. That hospital could not manage the flow of patient. Therefore he established the Prithvi-Bir Hospital as the first modern hospital in Nepal in 1889A.D. (1847B.S.) during the reign of King Prithvi Bir Bikram Shah Dev. “In the same year Cholera Hospital was established in Teku, Kathmandu near rope way station and Leprosy Hospital was also established in Tripureshwar”²⁷ At present, that hospital is famous by the name of Bir hospital. The hospital stands as a land mark in the history of modern allopathic health care. That was initiated with 15 male beds and 15 female beds with the Indian technical manpower on the leadership of Dr. Ganguly. At the same time the other hospitals were built by the name of Prithvi-Bir Hospital in the Administrative Region at Birgung, Jaleshwar, Hanuman Nagar, Rajbiraj, Nepalgunj and Taulihawa. Bir Hospital is running in full capacity (approximate 400 beds) with the increment of modern

²⁴ Ibid.

²⁵Rajendra Dhakal, *Swasthya Samanya Gyan*, 2nd ed. (Kathmandu: Makalu Books and Stationeries, 2003, pp. 42- 44.

²⁶Babu Ram Marasini, “Health and Hospital Development in Nepal: Past and Present,” *Journal of Nepal Medical Association* 42(2003):308. February 13, 2011 <[http://www.jnma.com.np/files/archive/2003/Vol.%2042,%20No.%20149%20\(2003\)/Health%20and%20Hospital%20Development%20in%20Nepal.pdf](http://www.jnma.com.np/files/archive/2003/Vol.%2042,%20No.%20149%20(2003)/Health%20and%20Hospital%20Development%20in%20Nepal.pdf)>

²⁷ Ibid.

physical and technical facility. At present it is working as a central hospital in Nepal.²⁸

Rana Chandra Shamsher (1902-1929A.D.) further established new hospitals and consolidated the previously established hospitals. Chandra Lok Hospital established in Bhaktapur in 1903 AD. The second-generation hospitals were established in the name of the then King Prithvi Bir Bikram and Prime Minister Chandra Shamsher as Prithvi-Chandra group of hospitals. Prithvi-Chandra Hospitals were established in Palpa, Palhi, Doti, and Ilam. After the death of the King Prithvi Bir Bikram Shah, Crown Prince Tribhuvan Bir Bikram Shah (1913–1954 AD) became the King of the Nepal. New group of hospitals as Tribhuvan-Chandra Hospitals established in Dhankuta, Bhadrapur, Sarlahi, and Rangeli. In 1925 AD 64-bedded Tri-Chandra Military Hospital was established in Kathmandu in the commemoration of the war heroes of the First World War. Prithvi-Bir Hospital in Kathmandu was further strengthened with establishment of the separate Women’s Hospital, radiology and laboratory units and Chandra Sales Dispensary. Nardevi Ayurvedic Hospital was established in 1918 AD and parallel Ayurvedic dispensaries were established in districts along with the modern medicine hospitals. He also established Lalitpur Hospital in Patan in 1924 AD. The expansion work of Khokna Leprosy Asylum to sanatorium and construction of Tokha Tuberculosis Sanatorium were also started during the premiership of the Rana Chandra Shamsher. Eighteen hospitals and 14 dispensaries got established during his premiership.²⁹

Rana Bhim Shamsher (1929-1932 AD) established Tri-Bhim Hospitals in Bhairahawa, Butwal and Bahadurganj. Ramghat dispensary at Pashupati was inaugurated in 1929 AD and further dispensaries were established in Sindhulimadi, Ramechhap, Okhaldhunga, and Pashupatinagar. Rana Juddha

²⁸Rajendra Dhakal, *Swasthya Samanya Gyan*, 2nd ed. (Kathmandu: Makalu Books and Stationeries, 2003, pp. 42- 44.

²⁹ Babu Ram Marasini, “Health and Hospital Development in Nepal: Past and Present,” *Journal of Nepal Medical Association* 42(2003):309. February 13, 2011 <[http://www.jnma.com.np/files/archive_/2003/Vol.%2042,%20No.%20149%20\(2003\)/Health%20and%20Hospital%20Development%20in%20Nepal.pdf](http://www.jnma.com.np/files/archive_/2003/Vol.%2042,%20No.%20149%20(2003)/Health%20and%20Hospital%20Development%20in%20Nepal.pdf)>

Shamsher(1932-1945A.D.) became the Prime Minister. He established Tri-Juddha group of hospitals in 1931 AD in Dharan and in 1940 in Bhimphedi, Bardiya, and Kailali. Tokha Tuberculosis Sanatorium (40 bed) came in operation in 1935 AD and Leprosy Asylum in Khokana, Kathmandu was upgraded to sanatorium and new leprosy sanatorium constructed in Malunga, Syangja also came in operation in the same year. Leprosy department and treatment center was established at Pachali (shifted from Tripureshwar) in 1937 AD. Padam Shamsher (1945-1948AD) was established a health center in Sankhu in 1949. Homeopathic dispensary was opened and a chest clinic (1951) was started in Bir Hospital. School health program initiated during this period.³⁰

The institutions providing health services are continuously increasing after the Revolution of 2007 B.S. i.e. post democracy period. This period also opened opportunity to non governmental organizations and private sector to provide health care. Different health policies and plans are made in different periodic plan (i.e. five year plan) as necessary and implemented. The National Health Policy 2048 was published for the people of village to provide fundamental health service from a place. According to policy, there should be at least one primary health center in each electoral region, should be one health post for five V.D.C. and one pre-primary health center for each V.D.C. Therefore the health services are increasing day by day according to the policy. The 83 government hospitals, 172 primary health center, 710 health posts, 3132 pre-primary health center are established and operating smoothly. There are 2 government's teaching hospitals-T.U. teaching hospital Maharajganj (1972), B.P. Koirala health science institute Dharan (January 18,1993) & 6 private medical colleges and teaching hospitals are running efficiently. They are as follows-

1. Bharatpur Medical Collage, Bharatpur, Chitawan (1998)
2. Manipal Medical Collage, Pokhara (1994)
3. Bhairahawa Medical collage, Bhairahawa(1999)

³⁰ Ibid.

4. Nepalgunj Medical collage, Chisapani, Banke, Nepalgunj(2002)
5. Nepal Medical collage, Jorpati, Kathmandu (December, 1997)
6. Kathmandu Medical collage, Sinamangal, Kathmandu (May 1, 2000)

There are 75 nursing homes, 15 eye hospitals, 2 community hospitals (Dhulikhel, Lamjung) established. Other national and international nongovernmental institutions are providing health facilities and services.³¹

At the end of fiscal year 2065/66 B.S.(2008/9AD), there are 102 government hospitals, 180 primary health center, 5 health center, 676 health posts, 3114 pre-primary health center are established and operating smoothly.³² Other private medical colleges & teaching established are Nopal Medical Collage, Biratnager (2005), Kist Medical College, Imadol (2006), Chitawan Medical Collage, Bharatpur, Chitawan (June, 2006), Lumbini Medical collage, Pakhribas Palpa(February, 2009), Gandaki Medical Collage, Ritthevani, Lekhnath, Pokhara (2010), National academy Medical sciences Bir Hospital,Kathmandu, Mahendra Nagar Medical collage, Mahendra Nagar Kanchanpur, Kathmandu University School of Medical Sciences, Dhulikhel (2000), National Medical collage, Birgunj (2001), Janaki Medical collage, Janakpur (2003) , etc.

There are 300 hospitals in different categories³³ (including government, private, mission, social institution related hospitals and other hospitals) like polyclinics, dental hospitals, medical collages, nursing homes, research centers, diagnostic centers, Health clinics, community hospitals, zonal hospitals etc.

2.1.3 Historical background of private hospital in Pokhara

After the restoration of democracy in 2046 B.S., the government made the National Acts and Policies. The “Private, Non-Governmental Health

³¹ Rajendra Dhakal, *Swasthya Samanya Gyan*, 2nd ed. (Kathmandu: Makalu Books and Stationeries, 2003, pp. 42- 44.

³² Government of Nepal, Ministry of Finance, *Economic Survey: Fiscal Year 2066/67*, 2 (Kathmandu: Ministry of Finance, 2067), p.207.

³³ Nepal Home Page Yellowpages, **Hospitals**. 1, February 10, 2011 <<http://www.nepalhomepage.com/yellowpages/yellowpages.php?ycatid=611>>.

Services and Inter-Sectoral Cordination” policy encouraged to provide health services.

The very first Padma Nursing Home is established as a nursing home (i.e. as a private hospital) in New Road in fiscal year 2049/50 B.S. As a nursing home it provides all basic services to the people. It is still running well since the establishment. It was started with 20 beds. Now it is running with 50 beds.

After this, the Fishtail Hospital & Research center is opened in Phalgun, 2055 B.S. as a 25 bed private hospital in Gairapatan. Now it is running with 50 beds. As a private hospital it provides all the facilities like laboratory, pharmacy, x-ray, ultra-sonogram, endoscopy, E.C.G., ambulance etc. and different types of indoor, outdoor and emergency services. There are different types of service departments of surgical, medical, gynecology; eye, E.N.T., etc. are available.

The increasing flows of patients to have good health service lured the businessman to invest in hospital industry. Therefore so many private hospitals are established in Pokhara. They are providing health services as a private hospital. They are as follows:-

Pokhara Hospital established in 2056 B.S. at New Road. It established as 25 bed hospital. Now it is running around 50 beds.

Om Hospital is situated at Mahendrapul. It is started from fiscal year 2056/57 and running with less than 50 beds.

Phewa city Hospital is started as a private hospital from 2056 B.S. at Nag Dhunga. Now it has 50 beds.

Model Hospital is established in fiscal year 2060/61 at New Road and running with around 50 beds.

Charak Hospital is situated at Prithvi Chok, Nayabazar. It has 300 beds from fiscal year 2065/66.

Metrocity Hospital is started from fiscal year 2065/67 at Sirjana Chok with 15 beds.

2.1.4 Concept of Financial Performance Analysis

Financial performance analysis is the process of identifying the financial strengths, weakness of the firm by properly establishing relationship between the variables of financial statements.

The evaluation of financial performance involves a series of techniques that can be used to help identify the strengths and weaknesses of a firm. The financial statements help us to show the actual picture of the firm. Financial activities in the organization are concerned with financial performance. Financial conditions must be strong are rational for better utilization of the available resources. Good financial position can achieve its goal.

Financial Performance deals with the financial activities in the organizations. The profit motive and other organizations involves directly or indirectly in acquisition and the use of funds. The working activities of an organization can run smoothly, if the financial performance is in good condition. For this financial analysis is needed.

Financial analysis is mainly based on the financial statements. By using these statements, we can draw the conclusions about the financial position of an organization.

Financial analysis is concerned with analyzing the financial statements of an organization. And, the real picture of financial performance mainly depends upon institutes' past, present and anticipated future financial condition, that is, financial analysis enables us to evaluate and disclose the condition of an institutes' financial performance that is determined on the basis of financial analysis.

“Financial analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the items of the Balance Sheet, Profit and Loss Accounts.”³⁴

³⁴ I.M. Pandey, *Financial Management*, 9th ed. (New Delhi: Vikas Publishing House Pvt.Ltd. 2005), p.517.

“Analyzing financial statements is the process of the evaluating relationship between component parts of financial statements to obtain a better understanding of a firm’s position and performance.”³⁵

2.1.5 Overall Hospital Revenue

The important factor for every type of Organization (i.e. government or private, small or large, commercial or service oriented, etc.) is revenue. Better utilization of the revenue can minimize the overall cost and achieve the goal of wealth maximization objective. Hospitals generally get their revenues in different ways for e.g. by providing medical services, non medical services (cafeteria, parking etc). The hospital makes money as revenue is, income earned by delivering patient care and other facilities.

As a private hospital FHRC is earning revenue only from internal sources by delivering patient care and other health services and facilities. The revenues are collected from different service income heads like outdoor income, indoor income, emergency income, injection income, other income and miscellaneous income.

2.1.6 Overall Hospital Expenditure

Hospital must spend money to function and provide patient care. Effective operation of the hospital based on the adequacy of the expenditure.

All the expenses done by FHRC in one year are overall expenditure. It includes Administrative expenses, Salary and allowance, hospital service expenses, repair and maintenance, surgical expenses, interest and service charge, depreciation, preliminary expenses write off and excess excise duties.

Fishtail Hospital prepares plans and programs, accounts of the incomes and expenditures and other necessary documents in an updated manner.

³⁵ R. W. Hetcalf and P.L. Tiard, *Principals of Accounting*, (Philadelphia: Wb Saunders, 1976), p. 157.

2.2 Review of Related Studies

In the health industry, the study on the “Financial Performance Analysis” is a new issue in Nepal till the date. There is no much material, no pasty literature books, and published and unpublished dissertation also. However some articles are found which are discussing bellow.

“A community leader’s guide to hospital finance- evaluating how a hospital gets and spends its money” was prepared for The Access Project (2001) by Sarah Gunther Lane, Elizabeth Longstreth, Victoria Nixon under the supervision of Nancy Kane, Harvard School of Public health.³⁶ The Asses Project is a national healthcare initiative. This is a guide which can give an overview of the health service industry. This article gives us the information about the sources of revenues, the field of hospital expenses and, the ratios etc. by which we can use to evaluate a hospital’s financial condition.

George H. Pink, G. Mark Holmes, Cameron D’Alpe, Lindsay A. Strunk, Patrick McGee and Rebecca T. Slifkin have published an article of “Financial Indicators for critical Access Hospitals”.³⁷ The purpose of this study is to develop comparative financial Indicators specifically designed for Critical Access Hospitals using Medicare cost report data with the help of a technical advisory group of individuals. They found the indicators to be useful and the underlying formulas to be appropriate for the industry as a whole. The *CAH Financial Indicators Report* is a useful first step toward comparative financial indicators for CAHs.

“Variations in Financial Performance Among peer groups of Critical Assess hospitals” is an article of George H. Pink, George M. Holmes, Roger E. Thompson and Rebecca T. Slifkin.³⁸ It uses different groups of financial performance measuring ratios to compare the effect of variations in facility

³⁶ Sarah Gunther Lane, Elizabeth Longstreth and Victoria Nixon, **A Community Leader’s Guide to Hospital Finance- Evaluating How a Hospital Gets and Spends Its Money**, 1-54, July 15, 2008 <http://www.accessproject.org/adobe/a_community_leaders_guide_to_finance.pdf>.

³⁷ George H. Pink et al./and others, “Financial Indicators for Critical Access Hospitals,” **Journal of Rural Health** 22, no. 3 (Summer 2006): 229-236. February 5, 2011 <<http://onlinelibrary.wiley.com/doi/10.1111/j.1748-0361.2006.00037.x/pdf>>.

³⁸ George M. Holmes et. al./and others, “ Variations in Financial Performance among Peer Groups of Critical Access Hospitals,” **Journal of Rural Health** 23, no. 4 (Fall 2007): 299-305. February 7, 2011 <<http://onlinelibrary.wiley.com/doi/10.1111/j.1748-0361.2007.00107.x/pdf>>.

revenue, number and types of service provided, among the large number of hospitals with critical access hospital (CAH) designation. They found there is significant differences in financial performance and condition exist among CAH peer groups.

“Financial Health of Private sector Hospitals in India” is the working paper series by Ramesh Bhat. According to this paper, using the financial balance sheets and profit and loss account data of 128 hospitals in India, this paper examines the financial health of hospitals in the private sector. Based on 26 key financial ratios, the paper empirically indentifies relevant dimensions of financial health of hospitals. These dimensions are: profitability, financial structure, over all efficiency, cost structure, profit appropriation, technology advancement, credit management, fixed asset intensity, liquidity and current assets efficiency. It then discusses the implication of the findings. Because of lower profitability, lower financial efficiencies and less understood economics of scale, the risks in the health sector are likely to remain high. Other risk factors are the geographic pull factor, long gestation periods, a highly fragmented sector and inadequacy of standards. In this scenario, new investment in the health sector will remain source dependent on subsidized channels of funding and will be sensitive to the out-of-pocket payment of fees, which still remains the main channel of revenue of these hospitals.³⁹

Michel J. McCue and Preethy Nayar has published an article “A financial Ratio Analysis of For- Profit and Non-Profit Rural Referral Centers.”⁴⁰ The aim of this study is to compare the ratio analysis of key operational and financial performance measures of for-profit Rural Referral Centers to those of private, non-profit rural referral centers. They used non-parametric median test to assess median differences in operational and key

³⁹ Ramesh Bhat, **Financial Health of Private Sector Hospitals in India**, (Working Paper Series, Indian Institute of Management, Ahmedabad, January 2006), 1. January18, 2010 <www.iimahd.in/publications/data/2006-01-01rbhat.pdf >.

⁴⁰ Michel J. McCue and Preethy Nayar, “A financial Ratio Analysis of For-Profit and Non-Profit Rural Referral Centers,” **Journal of Rural Health** 25, no. 3(Summer 2009): 314-319. July 23, 2010 <<http://onlinelibrary.wiley.com/doi/10.1111/j.1748-0361.2009.00236.x/pdf> >.

financial measures between the two groups. They selected 3 fiscal years cost report data from 2004 to 2006. They find the for-profit RRCs generated operating cash-flow margin ratio in excess of 19% by controlling their operating costs, compared to only 8.1% for non-profits.

M. Z. Younis, H. Z. Younies, and F. Okojie have published a follow-up report article “Hospital Financial Performance in the United States of America:- a follow up study”⁴¹ to clarify and validate the factors that influence hospital profitability in the United States of America of 3461 hospitals out of 5400 hospitals. They used a cross sectional design to examine data for the year 1998. This report is a follow-up to the study conducted by Younis, Rice and Barkoulas which indentified a number of economic and financial variables as significant contributors to hospital profitability for the years 1991 to 1995. They used a regression model to understand the affecting factors, f-test statistics.

Thomas L. Zeller, Brian B. Stanko, William O. Cleverley have published an article on “A new perspective on hospital financial ratio analysis.”⁴² The study conducted at a Loyola University Chicago with data supplied by the Center for Healthcare Industry Performance Studies, the audited financial statements of 2,189 not-for-profit hospitals for the years 1989 through 1992 were evaluated. In which, a concise set of critical financial ratios have been determined that describes a hospital’s major financial characteristics. There are three broad classification groupings- hospital ownership, hospital mission and hospital location, which were used. Six common financial characteristics of performance and the related ratios that occurred in all hospital operating environments- profitability, fixed asset efficiency, capital structure, fixed asset age, working capital efficiency and liquidity are listed.

⁴¹ M. Z. Younis, H. Z. Younies and F. Okojie, “Hospital Financial Performance in United State of America:- a Follow up Study,” **Eastern Mediterranean Health Journal** 12, no. 5(2006): 670-678. November 28, 2006 < www.emro.who.int/Publications/emhj/1205/PDF/Article22.pdf >.

⁴² Thomas L. Zeller, Brian B. Stanko and William O. Cleverley, “A New Perspective on Hospital Financial Ratio Analysis,” **Healthcare Financial Management** (November 1, 1997):1-6. January 28, 2009 <http://findarticles.com/p/articles/mi_m3257/is_n11_v51/ai_20446235>.

The article “Analysis Reveals Regional Variation in Financial and Operational Performance” is the analysis of financial and operational indicators for hospitals across the USA highlights a wide variation in performance by region. It is an analysis of quarterly data for January-March 2006 submitted by 550 hospitals provides a snapshot of current financial and operational performance. It used different financial ratios: bad debt to gross patient revenues %, net operating revenue. This ratio is important because it indicates employ productivity, and debt to capitalization ratio, operating margin, EBIDA margin are also used.⁴³

Fisher and Charles R. have published an article “Trends in total hospital financial performance under the prospective system (PPS)”⁴⁴. He used different financial ratios for the overall periodic (1977-89) performance of the US hospitals. This article examined the “average” hospital’s key determinants of financial performance and total hospital activity in the context of the general economy. It also displays unique aspects of trends in hospital’s revenues and profits, expenditures. In this article they used trend analysis as the statistical tool for different financial ratios and find whether they increase or decrease after the PPS applied.

The article “A case for better standards- hospital financial management- column”⁴⁵ by Richard L. Clarke has a view of some observers that of average total profit margin, operating margin ratio. These are the simple profitability measures. Return on investment should be at least equal to the cost of debt and equity capital’ and exceeds the cost of capital for many hospitals, which is good. The ratio of fixed asset turnover relates a hospital’s total activity or operating revenue to the current value of plant and equipment used to create the revenue. It is more measure of asset utilization than bed

⁴³ LLC Solucient, “Analysis Reveals Regional Variation in Financial and Operational Performance,” **Healthcare Financial Management** (March 12, 2007):1-3. January 28, 2009 <<http://www.allbusiness.com/health-care-social-assistance/3900011-1.html> >.

⁴⁴Charls R. Fisher, “Trends in Total Hospital Financial Performance under Prospective Payment System (PPS),”**Health Care Financing Review** (March 22, 1992):1-10. January 28, 2009 <http://findarticles.com/p/articles/mi_m0795/is_n3_v13/ai_12593916>.

⁴⁵ Richard L. Clarke, “A Case for Better Standards- Hospital Financial Management- Column,” **Healthcare Financial Management** (August, 1991): page1-2. February 9, 2010 <http://findarticles.com/p/articles/mi_m3257/is_n8_v45/ai_1162788>.

occupancy. The median ratio of fixed asset turnover shows that hospitals are using their assets more effectively today.

“Financial performance: The Effects of Ambulatory Surgery Centers” is an article by Kathleen Carey, James F. Burgess and Gary J. Young⁴⁶, in Wiley Inter-science (www.intewrscience.wiley.com.).DOI:10.1002/hec.1617 of March 2010. They estimated and used three regression model (using coefficient, standard error) having dependent variables: net patient revenue (revenue), total operating expenses (cost), and profit margins (margin) to test the effects of Ambulatory Surgical Center market competition utilized data on acute care general hospitals in operation during the period 1997-2004 in three U.S. states Arizona, California and Texas. As a result they found, the level of ASC penetration in hospital markets was negatively associated with both general hospital revenue and cost. Partly as a result of greater revenue reductions, the effect of ASCs on margins was also negative and statistically significant.

George H. Pink, Mark Holmes and Rebecca Slifkin have published an article “Critical Access Hospitals and Financial Bench Mark Performance”. A research team developed benchmarks for five of the financial performance ratio indicators for all CAHs that had a Medicare Cost Report covering at least 360 days in period and had no missing data for calendar years 2004, 2005, and 2006. 421 hospitals met these criteria. The selected benchmark values were: 5% for cash flow margin; 60 days cash on hand; debt service coverage of 3.0; long-term debt to capitalization of 25%.⁴⁷

⁴⁶ Kathleen Carey, James F. Burgess and Gary J. Young, “Financial Performance: The Effects of Ambulatory Surgery Centers,” **Health Economics** (March 2010), Wiley Inter-science. DOI:10.1002/hec.1617(24,May 2010): 1-11. February 6, 2011 <<http://onlinelibrary.wiley.com/doi/10.102/hec.1617/pdf>>.

⁴⁷ Rebecca Slifkin, George H. Pink and Mark Holmes, **Critical Access Hospitals and Financial Bench Mark Performance**, A Performance Monitoring Resource for Critical Access Hospitals, States, and Communities, (November 2009), 1-2, February 16, 2011<http://www.flexmonitoring.org/documents/policybrief11_Benchmarks.pdf>

CHAPTER III

RESEARCH METHODOLOGY

The main objective of this research study is to find out the true financial performance of FHRC. This study requires an appropriate research methodology to fulfill its objective. This chapter presents the methodology which is followed in this study of research work and it is concerned with the research design, Justification of study unit, nature and sources of data, data collection procedure and data analysis tools.

3.1 Research Design

The research design is the specification of the method and procedure for acquiring the information needed to solve the problem. This study is a case study on financial performance of FHRC to obtain answer to research questions based on descriptive research design. The research design refers to the conceptual structure with in the research is conducted and provide the required outcome. According to C.R. Kothari (1990), “A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.”⁴⁸ This study is based on financial revenues and pattern of expenditure and, the financial position refers to the amount of resources (i.e. assets and liabilities) and the result of their utilization of eight year period since FY 2058/59 to 2065/66. There is no use of complicated statistical tools. The data are presented in table and diagram and analysis is done accordingly.

⁴⁸ C.R. Kothari, *Research Methodology: Methods and Techniques*. 2nd ed. (New Delhi: Wishwa Prakashan, 1990), p. 39.

3.2 Justification of study unit

There are 14 and above hospitals registered, in which Fishtail Hospital and Research center Pvt. Ltd. is one of the leading private hospital located in Pokhara. There are no other study has been done in this topic, and improving performance of this hospital toward the patients seeking healthcare inspired me to select the study. I select this hospital because of my convenience, easy availability of the data, limited frame work, time and budget.

3.3 Nature and Sources of data

The necessary data have been collected from secondary sources. The study is mainly based on secondary data which have been collected from administrative and account sections of FHRC with the help of concern staff. The annual reports of eight year period of the hospital will be the major sources of data. They are audited balance Sheet, profit and loss account or income statement. However, in some cases primary data are also used which is collected from unstructured interview with the officials of FHRC.

3.4 Data Collection procedure

The secondary data are collected from official records of FHRC. The primary data in the study has been collected by using informal unstructured interview with the staffs and officials. Other essential data collected by visiting libraries, internet and related text books.

3.5 Data processing and analysis tools

This research work is particularly designed for descriptive and analytical purpose. There are no complicated statistical tools have been used. For the analysis of financial soundness of FHRC, the collected data has been analyzed and processed according to the needs of the study by using different relevant financial ratios, simple mathematical expressions percentage, average, least square, correlation coefficient and trend analysis etc. The essential tables, charts, graphs have been presented to make the analysis

simple and easy to understand. All calculations have been done with the help of Microsoft Excel by researcher herself.

3.5.1 Financial Tools

Ratio analysis: Generally ratio is an arithmetic relationship between two figures. The purpose of a ratio is to relate several pieces of information through one summery measure that is more meaningful. Ratio can be locked at across time, called a trend analysis. In finance, ratio can be used systematically to interpret the financial statements so that the strengths and weakness of a firm as well as its historical performance and current financial condition. So, ratio analysis is one of the important tools for measuring the performance and financial position of a firm in a meaningful quantitative relationship used to make qualitative judgment.

Ratio Analysis as a Standard Tool of Financial Performance

Analysis: In one hand, ratio is defined as the indicated proportion of two mathematical expressions and is the relationship between two or more things. On the other hand, financial ratio compared present ratio with past and future ratio for similar form in average for the same period of time which gives insight into the relative financial condition and performance of the firm. Therefore it is the yardstick tools to evaluate financial performance and conditions of the firms.

Types of Ratios: The type of ratio analysis varies according to the specific interest of the party involved. The short term creditors interested in short term liquidity of a firm to meet their claims over a very short period of time. Like wise the long term investor interest should be on long term solvency and survival of the firm. Similarly, the owners are more concentrated on the firm's stable trend of earnings, present and future profitability, and financial conditions that affects on ability to pay dividends and to avoid bankruptcy. The interest of management is in evaluating overall activity of firm's performance. For the research purpose, various financial

tools are taken for the analysis. The following ratios are selected in this study from more than 200 ratios existing:-

- Liquidity Ratios
- Turnover/Activity Ratios
- Debt Management /Financial Leverage Ratios
- Profitability Ratios

Liquidity Ratios

Current Ratio: The current ratio measures the firm's short term solvency. It indicates the availability of current assets in rupees for every one rupee of current liability. A ratio of greater than one means that the firm has more assets than current claims against them, I.M. Pandey (1999). Current ratio is the proportion of current assets to current liabilities:-

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} \quad \dots \quad \dots \quad \dots \quad (3.1)$$

Current Assets:- Cash and those assets that can be converted into cash within a year. Such as marketable securities, accounts receivable, inventories and prepaid expenses, accrued income taxes.

Current Liabilities:- All the obligations maturing within a year such as creditors, bills payable, accrued expenses, bank overdraft, income tax liability, interest and long term debt maturing within current year.

The current ratio is a margin of safety for creditors. Normally, current ratio of 2:1 is appropriate standard measure and considered as satisfactory for most of the firms. But it is regarded as a crude measure of liquidity because of not taking individual components of the current assets. It is test of quality, not quantity. Because, firms having current ratio less than 2:1 may be doing well and may be struggling with current ratio higher than 2:1 to meet their liabilities.

Quick or Acid test Ratio:- According to M.Y. Khan & P.K. Jain "it is a measurement of firm's activity to convert its current assets quickly into cash in order to meet its current liabilities." It is more accurate measure of liquidity than current ratio. Current assets minus inventory (closing stock), is taken as a

quick assets because closing stock is not convertible into cash in timely and may not have its proper value. Quick ratio having 1:1 is believed adequate for most firms as standard. Higher ratio indicates the firm has excessive quick assets, idle current assets and inefficient management. Likewise the lower ratio indicates poor financial position and difficulties in the timely payment of future bills. It is calculated by dividing Quick assets by current liabilities:-

$$\text{Quick ratio} = \frac{\text{Current Assets} - \text{inventory}}{\text{Current liabilities}} \dots \dots \dots (3.2)$$

Days Cash on hand Ratio⁴⁹:- It measures the number of days the hospital can continue to operate without collecting any additional cash. It is calculated as:

$$\text{Days cash on hand Ratio} = \frac{\text{Current cash} + \text{investment}}{(\text{Other Operating Expenses}/365)} \dots \dots (3.3)$$

Turnover/Activity Ratios:-

Fixed Assets Turnover Ratio: This ratio measures the efficiency with which the firm is utilizing its investment in its various fixed assets. It indicates how well the business is using its fixed assets to generate sales or revenue. “The higher the ratio, the better, because a high ratio indicates the business has less money tied up in fixed assets for each of rupee of sales revenue. A declining ratio may indicate that the business is over-invested in plant, equipment, or other fixed assets.”⁵⁰ It is found out by dividing sales or revenue by net fixed assets.

$$\text{Fixed assets turnover ratio} = \frac{\text{Revenue}}{\text{Net Fixed Assets}} \dots \dots \dots (3.4)$$

Total Assets Turnover Ratio: This ratio indicates the sales generated per rupee of investment in the total assets. “It measures the

⁴⁹ Sarah Gunther Lane, Elizabeth Longstreth and Victoria Nixon, **A Community Leader’s Guide to Hospital Finance- Evaluating How a Hospital Gets and Spends Its Money**, 30, July 15, 2008 <http://www.accessproject.org/adobe/a_community_leaders_guide_to_finance.pdf>.

⁵⁰ Wikipedia, The Free Encyclopedia, **Fixed Assets Turnover Ratio**. February 6, 2011 <http://en.wikipedia.org/wiki/Fixed_asset_turnover>.

efficiency of a company's use of its assets in generating sales revenue or sales income to the company.”⁵¹ It is calculated as:

$$\text{Total Assets Turnover Ratio} = \frac{\text{Revenue}}{\text{Total Assets}} \dots \dots \dots (3.5)$$

Total asset is a sum of fixed assets, current assets and investments. The high turnover ratio indicates efficiency in utilization of firm's limited resources.

Debt Management/ Financial Leverage Ratios

Debt ratio: - “This ratio indicates the percentage of a company's assets that are provided via debt.”⁵² It shows the proportion of debt on total assets. More the debt, high the risk of not getting loan whenever there is need. Company will be in danger if creditors start to repayment of debt. It is computed by dividing total debt by total assets.

$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}} \dots \dots \dots (3.6)$$

Total debt Includes long term debt, current liabilities and other liabilities.

Debt to equity ratio:- It indicates the relative proportion of shareholder's equity and debt used to finance a company's assets. It is calculated by dividing debt by shareholder's equity.

$$\text{Debt to Equity ratio} = \frac{\text{Total Debt}}{\text{Shareholder's Equity}} \dots \dots \dots (3.7)$$

Shareholder's equity Includes Paid-up capital, share premium and reserve & surplus.

Cash-flow to debt ratio: - It is a measure of debt service capacity or ability. Cash-flow is defined as earning before interest, tax, depreciation and amortization i.e. EBITDA. It is calculated as:

⁵¹ Ibid.

⁵² Wikipedia, The Free Encyclopedia, **Debt Ratio.** February 6, 2011<http://en.wikipedia.org/wiki/Fixed_asset_turnover>.

$$\text{Cash-flow to Debt Ratio} = \frac{\text{Cashflow(EBITDA)}}{\text{Total liabilities}} \dots \dots (3.8)$$

Total liabilities include long term debt, current liabilities and other liabilities.

Profitability ratio

Net Profit Margin:- This ratio tells us the relative efficiency of the firm after taking into account all expenses and income taxes, but not extraordinary charges.⁵³ It is calculated by dividing net profits after taxes by sales i.e. revenue.

$$\text{Net Profit Margin} = \frac{\text{NPAT}}{\text{Revenue}} \dots \dots (3.9)$$

Operating ratio (operating expense ratio):- It is a company's operating expenses as a percentage of revenue. It is a measurement of operating efficiency. Operating expenses includes all general administrative expenses and COGS. It is calculated as:

$$\text{Operating Expenses Ratio} = \frac{\text{Operating Expenses}}{\text{Revenue}} \dots \dots (3.10)$$

Return on Assets: - This is the ratio of money gained or lost (whether realized or unrealized) on an investment relative to the amount of money invested.⁵⁴ It seeks to measure the effectiveness with which the firm has employed its total resources. The ROA is calculated as follows:

$$\text{Return on Assets} = \frac{\text{NPAT}}{\text{Total Assets}} \dots \dots (3.11)$$

Total assets include net fixed assets, current assets and other current assets.

Return on Equity:- It measures the rate of return on the ownership interest (Shareholder's equity) of the common stock owners. It measures a firm's efficiency at generating profits from every unit of shareholders' equity

⁵³ James C. Van Horne, "*Financial management Policy*," 12th ed., (Delhi: Pearson Education (Singapore) Pvt. Ltd., 2002), p. 360.

⁵⁴ Wikipedia, The Free Encyclopedia, **Return on Assets**. February 6, 2011 <http://en.wikipedia.org/wiki/Return_on_assets>.

(also known as net assets or assets minus liabilities).⁵⁵ ROE shows how well a company uses investment funds to generate earnings growth. This ratio is as follows:

$$\text{Return on Equity} = \frac{\text{NPAT}}{\text{Shareholder's Equity}} \dots \dots \dots (3.12)$$

Shareholder's equity contains paid up capital, reserve & surplus and share premium.

3.5.2 Statistical Tools

Average: To summarize the data as a representation of mass data, the simple arithmetic average is used in this study. Specially, the average is applied to compare the ratio as a standard of FHRC. A simple arithmetic average is a value obtained by dividing the sum of the values by their numbers. So, the average is expressed as:

$$\begin{aligned} \text{Average} &= \frac{\text{Sum of the values}}{\text{No. of values}} \dots \dots \dots \\ &= \frac{x_1 + x_2 + x_3 + x_4 + \dots + x_n}{n} \dots \dots \dots (3.13) \end{aligned}$$

Here,

n = number of values

x_t = individual value for period t.

Growth Rate: Total revenue growth rate has been worked out by using following model:-

$$\text{Growth (g)} = \frac{t_1 - t_0}{t_0}$$

Where,

t₁ = Total revenue of current year

t₀ = Total revenue of previous year

⁵⁵ Wikipedia, The Free Encyclopedia, **Return on Equity.** February 6, 2011 <http://en.wikipedia.org/wiki/Return_on_assets>.

Correlation Coefficient (r): It is defined as the statistical technique which measures the degree and direction relationship between the two variables, say X and Y and it does not tell anything about cause effect relationship. Symbolically, the correlation coefficient is defined as:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} \dots \dots \dots (3.14)$$

Here,

r = Correlation coefficient

x = Deviation taken from arithmetic mean of X variable = X - \bar{X}

y = Deviation taken from arithmetic mean of Y variable = Y - \bar{Y}

\bar{X} = Arithmetic mean of values of X variable

\bar{Y} = Arithmetic mean of values of Y variable

Probable Error (P.E.): The probable error of the correlation coefficient is applicable for the measurement of reliability of the computed value of the correlation coefficient 'r'. The probable error (P.E.) is defined by,

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{n}} \dots \dots \dots (3.15)$$

Here,

r = correlation coefficient

n = Numbers of pairs of observations.

If 'r' is lower than P.E. the value of 'r' is not significant and if 'r' is higher than 6P. E. the value of 'r' is significant i.e. correlation is significant.

Least Square Trend Analysis: It has been used to find out the trend in different ratio analysis. The general equation used for linear trend is as follows:

$$Y = b_0 + b_1t \dots \dots \dots (3.16)$$

Where,

Y = Estimated dependent variable

t = Time variable

b_0 = Intercept of the trend line i.e. y- Intercept

b_1 = Slope of trend line and measures the increasing or decreasing rate of Y in time series

In the above model,

$$b_0 = \frac{\sum Y}{N}, \quad b_1 = \frac{\sum tY}{\sum t^2}, \quad \text{where, Y = Dependent variable}$$

For n is odd,

$$t = \frac{X - \text{middle year}}{\text{Interval of time period}}$$

And for n is even,

$$t = \frac{X - \text{arithmetic mean of two middle years}}{\frac{1}{2} (\text{Interval of time period})}, \quad \text{Where X = given time period}$$

$$= \frac{2(X - \text{arithmetic mean of two middle years})}{(\text{Interval of time period})}$$

3.6 Limitation of the Methodology

It is difficult to illuminate the limitation of the descriptive research design. Therefore the study as well as the methodology is delimited.

This study is involved in the financial performance of FHRC. The financial performance measured on basic financial ratios for manufacturing institution and their trend analysis. The ratios are compared only on the base of historical trend and their respected averages. No comparison with benchmark ratio is undertaken. Ratios are calculated from figures in annual statements of FHRC. The reliability of the analysis depends on the reliability of the financial figures of the statements. All the financial ratios have not been included in the study. Different models and tools, which are used for data collection in research work, are not completely free from criticism. Therefore it also imposes to draw the line of limitation. The different tools are used to analyze the collected data, which are based on certain assumptions. So reliability of the analysis depends on the circumstances on which the models are based.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Data presentation and Analysis

This chapter deals with the presentation and analysis of collected data to measure the financial performance of Fishtail Hospital and Research Center. This chapter is concerned with the revenue and its sources along with the expenditure and their analysis and over all financial terms related to financial performance. For this purpose, various financial and statistical tools are used. The financial tools include ratio analysis. Similarly, under the statistical tools correlation coefficient, probable error of correlation coefficient and slope of trend line determined by the least square method are included. The ratio analysis is concerned with liquidity ratios, activity ratios, debt management ratios and profitability ratios.

4.1.1 Analysis of Total Revenue

The hospitals are generating the essential revenues internally as well as externally from the different sources in different countries. But the private hospitals like FHRC in Nepal, mostly generating their revenues from internal sources only. The internal sources of revenue of FHRC, includes Indoor income, outdoor income, emergency income, injection income, miscellaneous income and other income.

Table 4.1: Total Revenue of Fishtail Hospital & Research Center

(in Rs.' 0000)

Fiscal Year	Total Revenue	Growth Rate (%)
2058/59	684.33	25.94
2059/60	679.98	- 0.64
2060/61	717.32	5.49
2061/62	816.99	13.89
2062/63	925.77	13.31
2063/64	1059.32	14.43
2064/65	1219.28	15.10
2065/66	1523.41	24.94
Average Revenue	953.30	

Source:-Worked out from appendix – 1.

Table 4.1 shows the total revenue generated is Rs. 684.33 and Rs. 1523.41 in FY 2058/59 and FY 2065/66 respectively. The average generation of the income is Rs. 953.30. The changes in revenue generated are not similar. The fluctuation in the total revenue is because of heavy decrease in indoor and miscellaneous income from beginning to FY 2059/60. There after the growth rate is increasing due to increase in total revenue during the study period.

a. Trend in Revenue of fishtail hospital & Research center

From the given data trend analysis of the total revenue has been presented below. Table 4.2 shows the trend value and total revenue generated.

Table 4.2: Trend Value and Total Revenue of FHRC

(in Rs.'0000)

Fiscal Year	Total Revenue	Trend
2058/59	684.33	548.93
2059/60	679.98	664.46
2060/61	717.38	780.00
2061/62	816.99	895.53
2062/63	925.77	1011.07
2063/64	1059.32	1126.60
2064/65	1219.28	1242.13
2065/66	1523.41	1357.67

Source: Appendix – 4.

Fig. 4.1: Trend of Revenue of FHRC

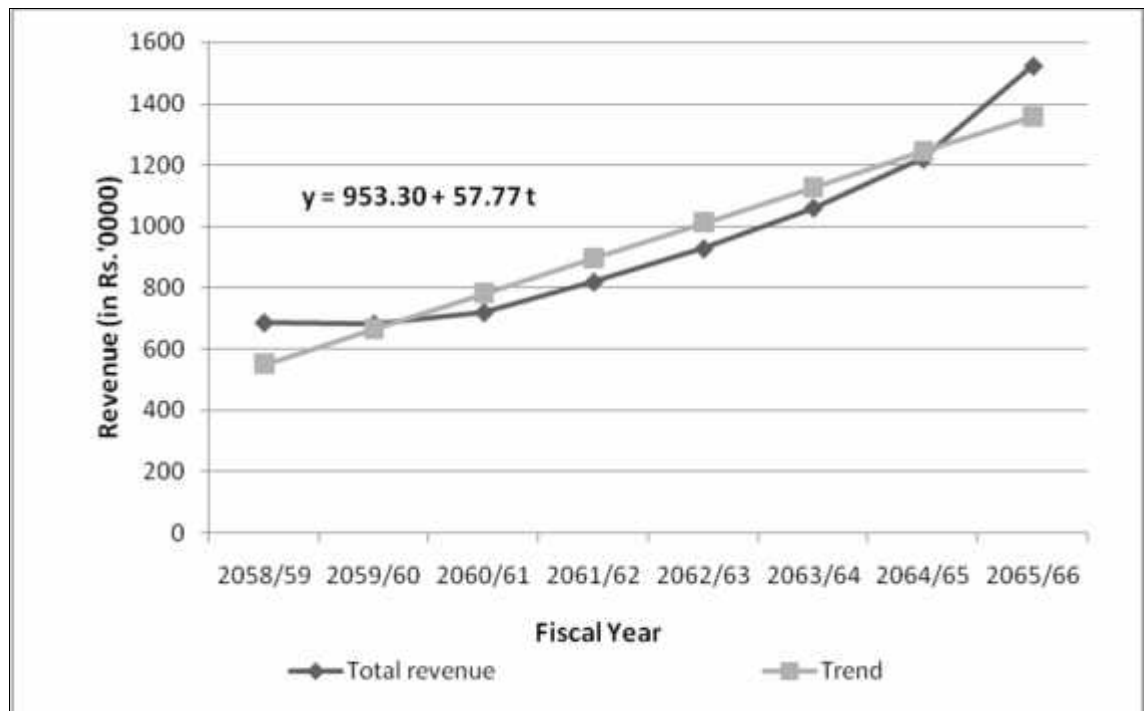


Fig.4.1 shows the total and trend value of revenue generated from Fishtail Hospital and Research center. The curve of total revenue is almost similar and in increasing order during the study period, and it is increasing below the trend line from FY 2059/60 to FY 2064/65. But from the beginning to FY 2059/60 the total revenue curve is above and decreasing towards the trend line. From FY 2064/65 to FY 2065/66 the total revenue curve has increased greatly and is above the trend line because of increase in indoor income, miscellaneous income and other income.

b. The Breakdown of Revenue

The breakdown of revenue according to the income heads have been presented in Table 4.3.

Table 4.3: Revenue generated from different sources of FHRC

(In Rs.'0000)

Head of income	Indoor Income		Outdoor Income		Emergency Income		Injection Income		Miscellaneous Income		Other Income		Total Revenue	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	Average %
2058/59	414.97	60.64	209.55	30.62	0	0	0	0	5.73	0.84	53.08	7.76	684.33	8.97
2059/60	371.47	54.63	250.82	36.89	0	0	0	0	0.18	0.03	57.51	8.46	679.98	8.92
2060/61	351.45	48.99	277.34	38.66	0	0	0	0	0.23	0.03	88.30	12.31	717.32	9.41
2061/62	386.49	47.31	307.02	37.58	0	0	0	0	0.02	0.003	123.45	15.11	816.99	10.71
2062/63	453.08	48.94	289.52	31.27	43.48	4.70	10.05	1.09	3.06	0.33	126.58	13.67	925.77	12.14
2063/64	495.41	46.77	348.07	32.86	54.91	5.18	9.67	0.91	0.08	0.01	151.18	14.27	1059.32	13.89
2064/65	584.76	47.96	387.19	31.76	69.29	5.68	7.00	0.57	1.46	0.12	169.58	13.91	1219.28	15.99
2065/66	723.04	47.46	477.32	31.33	68.01	4.46	5.29	0.35	5.60	0.37	244.15	16.03	1523.41	19.98
Total	3780.67		2546.83		235.69		32.01		16.36		1013.83		7626.40	
Average %		49.57		33.39		3.09		0.42		0.21		13.29		100

Source: Worked out from appendix – 1.

Fig. 4.2: Revenue generated from different sources

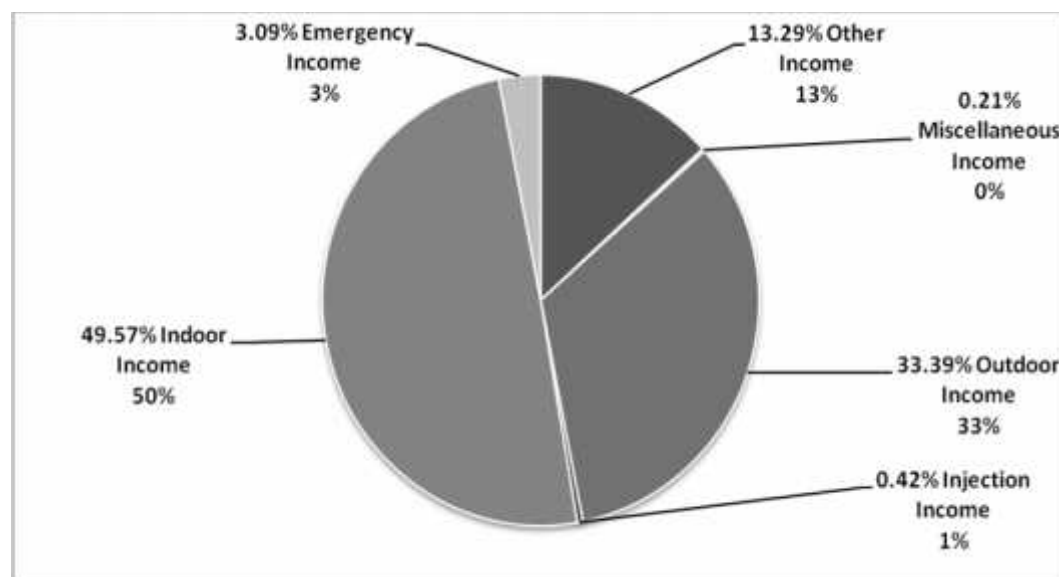


Table 4.3 and figure 4.2 show that the sources of revenue include the indoor, outdoor, emergency, injection, miscellaneous and other income. According to the table, the indoor income is varied from 60.64% to 46.77 %

during the study period. It is high in the FY 2058/59 and low in FY 2063/64. It is in decreasing order from beginning up to FY 2061/62. Then it is fluctuating between 46.77% to 48.94% in FY 2063/64 and FY 2062/63. The lowest income as a percentage to total revenue among the indoor income is in FY 2063/64. The amount of the indoor income is in decreasing order from FY 2058/59 to 2061/62 and it is increasing up to 2065/66 although the percentage is low in comparing with beginning amount. The increase in other sources of revenue and total revenue, it is happened.

The outdoor income is increasing up to 38.66% from 30.62% during the study period. From beginning to FY 2060/61, it is in increasing order and then it is fluctuating from 31.27% to 37.58%. It is in decreasing order from FY 2063/64 to FY 2065/66, although the amount of outdoor income is increasing. The reason behind this is increase in indoor, miscellaneous and other income with total revenue.

The emergency income is starting from FY 2062/63. It is ranging from 4.46% to 5.68% in FY 2065/66 and FY 2064/65 respectively, and in fluctuating position.

Injection income is started from FY 2062/63 and in decreasing order up to FY 2065/66. The highest and lowest injection income are 1.09% and 0.35% in FY 2062/63 and 2065/66.

The highest and lowest miscellaneous incomes are 0.84% and 0.003% in FY 2058/59 and FY 2061/62. It is in decreasing order from beginning to FY 2061/62 and there after there is no similarity in the percentage of miscellaneous income.

The amount of other income is in increasing order during the study period, but the percentage is not in similar manner. The highest other income is 16.03% and lowest is 7.76% in FY 2065/66 and 2058/59 respectively. It is increased from beginning to FY 2061/62 and there after fluctuating from 13.67% to 16.03%.

During the research period the average percentage of total revenue is in increasing order, except in FY 2059/60. It is started from 8.97% to 19.18%.

4.1.2 Analysis of Total Expenditure

The trend value and total expenditure of Fishtail Hospital & Research Center during the study period has been presented in table 4.4.

Table 4.4: Trend Value of Total Expenditure of FHRC

(in Rs.'0000)

Fiscal Year	Total Expenditure	Trend
2058/59	428.35	411.26
2059/60	539.48	495.22
2060/61	579.70	589.19
2061/62	684.38	663.15
2062/63	658.96	747.12
2063/64	707.32	831.08
2064/65	954.42	915.05
2065/66	1088.47	999.01
Average	705.14	

Source: Appendix – 5.

Fig. 4.3: Trend and Total Expenditure of FHRC

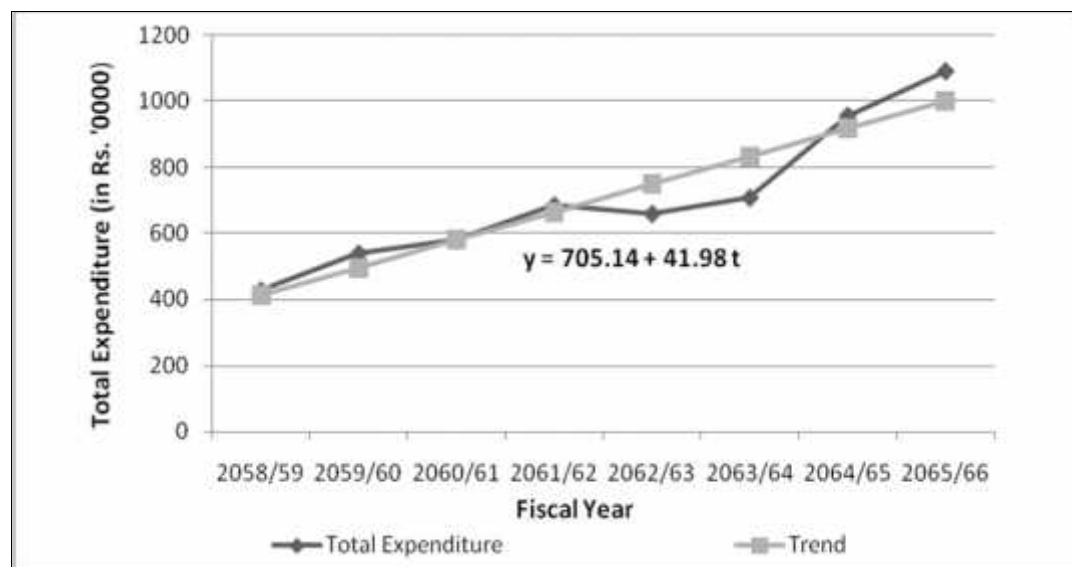


Table 4.4 presents the total and trend value of expenditure of Fishtail Hospital & Research Center. The amount of total and trend value of expenditure is Rs. 428.35 and Rs. 411.26 in FY 2058/59 and, it is Rs. 1088.47

and Rs. 999.01 in FY 2065/66 respectively. The average amount of expenditure is Rs. 705.14.

Fig. 4.3 shows the total expenditure curve is not similar to the trend line because of increase in the expenses for the initial establishment of services which makes the heavy increase in administrative and other expenses. It is almost similar and in increasing order from beginning to the FY 2061/62 and decrease in FY 2062/63. After that it is increased greatly upward to above the trend line because of heavy operating expenses to give better services to the patients.

a. The Breakdown of Total expenditure

The total expenditure includes the administrative expenses, Hospital service expenses, salary & allowance expenses, surgical expenses etc. The breakdown of the expenditure and their averages are presented below.

Table 4.5: Breakdown of Total Expenditure of FHRC

(in Rs.' 0000)

Fiscal Year	2058/59	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66	Total	Average (%)
Expenditure										
Administrative	57.89	72.79	84.61	110.25	93.23	79.66	100.98	117.19	716.6	12.70
salary & Allowance	228.93	286.31	291.53	304.23	318.80	377.31	495.05	557.23	2859.39	50.69
Hospital Service	64.52	62.21	59.87	68.92	71.59	74.30	88.34	102.81	592.56	10.50
Repair and Maintenance	5.63	17.54	13.41	30.53	20.08	24.21	27.70	30.77	169.87	3.01
Surgical Exp.	9.92	12.27	17.02	22.52	20.10	30.40	36.18	59.11	207.52	3.68
Cleaning Exp.	0	0	0	0	5.82	5.40	4.30	7.32	22.84	0.40
Interest & Service Exp.	0	0	3.19	31.93	14.75	0	51.32	33.65	134.84	2.39
Depreciation	60.84	87.93	109.64	115.66	107.66	101.84	141.60	169.99	895.16	15.87
Preliminary Exp. Write off	0.62	0.43	0.43	0.35	0.31	0.28	0.26	0.23	2.91	0.05
Excess Excise Duty Paid	0	0	0	0	1.69	7.02	2.01	5.57	16.29	0.29
Other Exp. i.e.(O/S)	0	0	0	0	4.93	6.90	6.68	4.60	23.11	0.41
Total Expenditure	428.35	539.48	579.70	684.39	658.96	707.32	954.42	1088.47	5641.09	100
Average (%)	7.59	9.56	10.28	12.13	11.68	12.54	16.92	19.30	100	

Source: Worked out from appendix – 1.

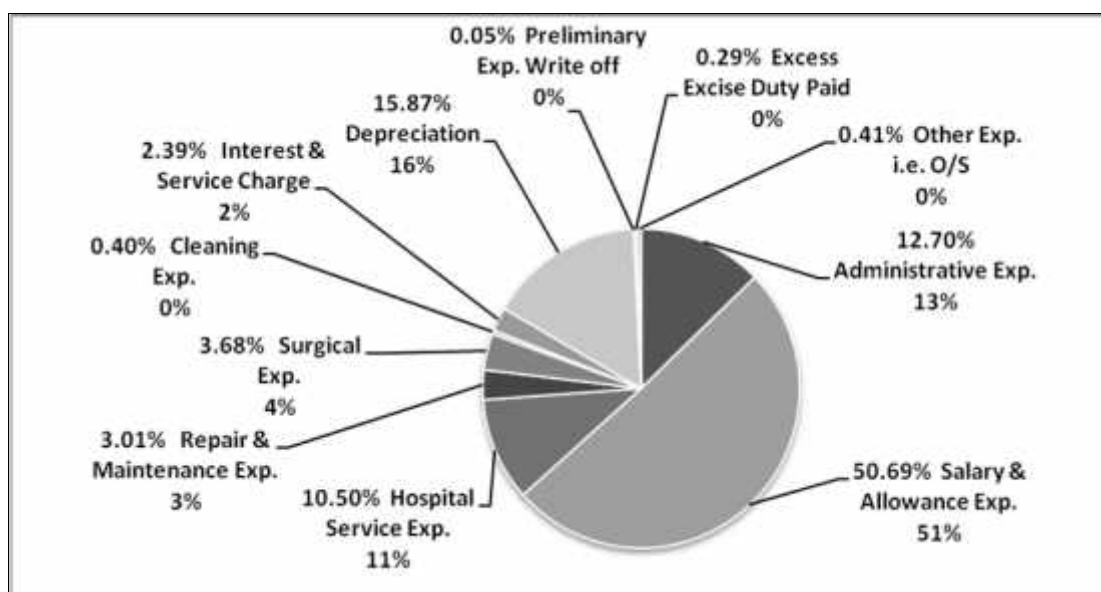
Fig. 4.4: Breakdown of Total Expenditure of FHRC

Table 4.5 and Fig. 4.4 of pie diagram show that salary allowance has the great share among the total expenditure. It is greater than half that is 50.69% in the average weight of the salary & allowance towards the grand total expenditure during the study period. It is varied from Rs. 228.93 to Rs. 557.23 in FY 2058/59 and FY 2065/66. The average weights of different types of expenditures towards grand total expenditure range from 0.05% to 50.59%. It can also be noted that, the average weight of total expenditure is 7.59% and 19.30% in FY 2058/59 and 2065/66. The highest total expenditure is Rs. 1088.47 in FY 2065/66 because of greatest share of salary & allowance.

4.1.3 Analysis of Financial Performance

The financial performance of Fishtail Hospital & Research Center is analyzed with the help of ratios and their trend analysis. The financial ratios can help to determine the current financial condition as well as the strengths and weaknesses of FHRC. Trend analysis helps us to study the composition of change and determine whether there has been an improvement or deterioration in the financial condition and performance over time.

The favorable or unfavorable condition of FHRC cannot be indicated by the single ratio. Therefore, it is necessary to compare with the standard for

judgment. For that purpose, the calculated ratios are compared with the standard and average ratio over the study period i.e. eight fiscal years.

a. Liquidity Ratio

Liquidity ratios are used to measure the firm's ability to meet its short term obligations and the availability of cash to pay debt. These ratios are comparison of short term obligation with the resources available and measured by current and quick ratio.

i. Current Ratio

Current Ratio is the one of the measurement of liquidity of any form. Liquidity focuses on the concept of ability of paying short term obligation of efficiency. It is determined by dividing total current assets by total liability. Generally, current ratio of 2:1 is taken as a standard. High current ratio shows higher degree of liquidity. The current liquidity position of a FHRC over the study period is shown in table 4.6.

Table 4.6: Current Ratio

(in Rs. '0000)

Year	Current Assets	Current Liabilities	Current Ratio(times)
2058/59	230.75	224.91	1.03
2059/60	307.60	111.16	2.77
2060/61	290.49	73.79	3.94
2061/62	50.17	50.96	0.98
2062/63	117.51	56.25	2.09
2063/64	160.64	75.22	2.14
2064/65	146.82	103.44	1.42
2065/66	1319.21	141.50	9.32
Total	2623.19	837.23	Average = 3.13

Source: Worked out from Balance Sheet (Appendix - 2).

As shown in table 4.6, current assets of FHRC increased from low amount of Rs.50.17 to Rs.1319.21 in FY 2061/62 to 2065/66 and the current liabilities fluctuated between Rs. 50.96 and Rs. 224.91 during the study period.

The average current ratio of FHRC is 3.13 times. The current ratio in the FY 2058/59 is 1.03 times and increased to 3.94 times in the FY 2060/61. It is decreased to the minimum level at 0.98 times in the FY 2061/62 and highest at 9.32 times in the FY 2065/66. In the FY 2060/61 and FY 2065/66 the current ratio is higher than the average current ratio. This shows that the liquidity position is higher than the average current ratio and adequate to meet its short term obligation. In FY 2061/62 the current ratio is 0.98 which is less than the standard of 2:1 and average ratio over the study period. It means that liquidity position was very poor at that year.

Table 4.7: Trend Ratio and Current ratio

Year	Current Ratio(times)	Trend Ratio
2058/59	1.03	1.00
2059/60	2.77	1.56
2060/61	3.94	2.12
2061/62	0.98	2.68
2062/63	2.09	3.24
2063/64	2.14	3.80
2064/65	1.42	4.36
2065/66	9.47	4.92

Source: Appendix - 6.

Fig. 4.5: Trend and Current Ratio

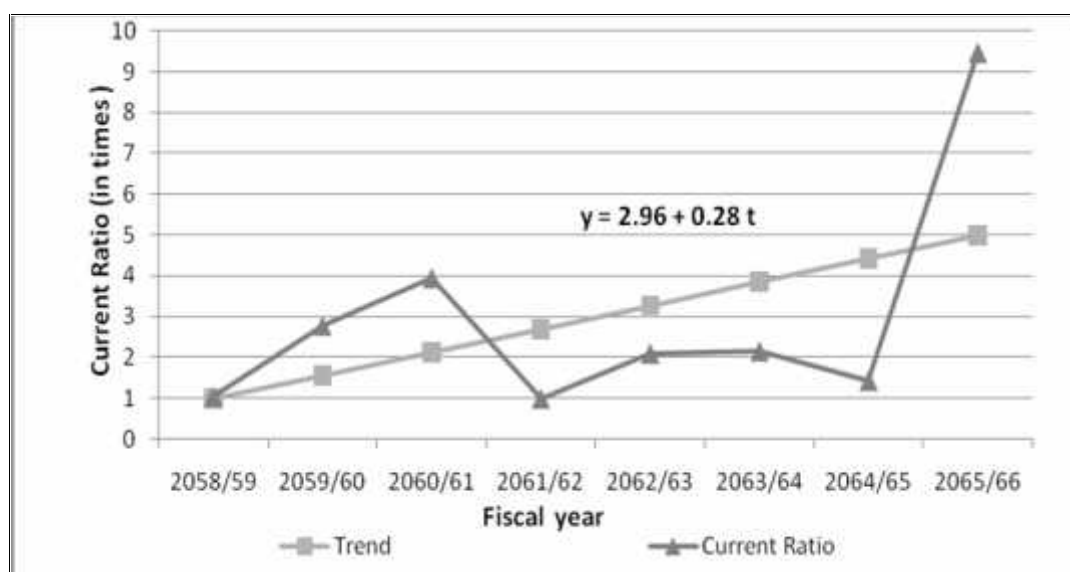


Figure 4.5 shows the trend of current ratio of FHRC for eight years, which is greater than the standard norms of 2:1 except in FY 2058/59,

2061/62 and 2064/65. Similarly, the ratios are greater than the average value in FY 2060/61 and 2065/66. The ratio as compared with the previous years seems to be satisfactory except in the FY 2058/59, 2061/62 and 2064/65. However, the ratios are greater than one in all the years except in FY 2062/63. The figure 4.3 shows the observed value of current ratio along with trend line of current ratio is in increasing pattern or trend. The slope of trend line is positive, which indicates that the trend of current ratio is increasing over the study period.

Table 4.6 shows that the volume of current liabilities, from the initial year to the FY 2060/61 is fluctuating along with current assets. But from the FY 2061/62 to FY 2065/66, it has a rapid increase along with corresponding increase in the volume of current assets. The amount of current liabilities is increasing by 0.63 times and the current assets are increasing by 5.80 times over the study period. In the FY 2061/62, there is unsatisfactory level of current ratio due to the purchase of fixed assets by fixed deposits and cash & bank balances from current assets which are proportionately higher in previous year.

Fig. 4.6: Current Assets and Current Liabilities

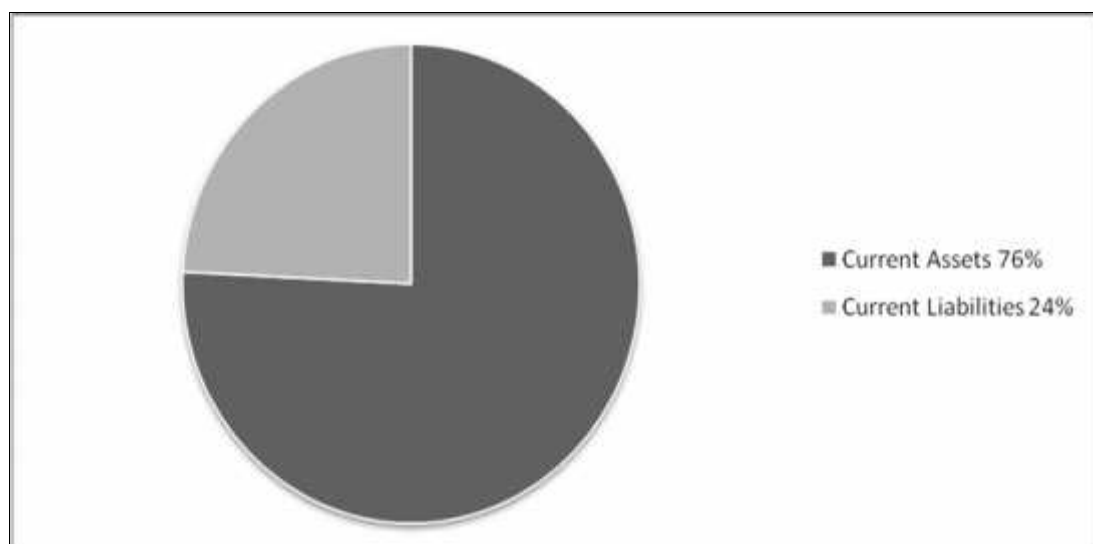


Figure 4.6 shows the portion of total current assets and total current liabilities in average, over the study period. The pie diagram shows that the current assets are 76% and current liabilities are 24%. In general, difference

between current assets and current liabilities was 52%.As per standard it should be 33% and it is greater than the standard.

In a conclusion, during the study period the change in current liabilities is lower than the current assets. The analysis shows that the FHRC has followed a reliable trend in its working capital management policy. The excess current assets should be used to increase other services and patient care facilities for the utilization of short term resources.

The correlation coefficient between current assets and current liabilities is 0.3419 and the probable error of correlation is 0.2106. It indicates that the current assets and current liabilities are positively correlated. The positive correlation coefficient signifies that both the variables are moving in the same way.

ii. Quick Ratio

It is an accurate guide to measure the liquidity position of any form. Quick assets are determined by deducting the prepaid and stocks i.e. inventories from current assets. Inventories are the least liquid current assets. Liquidity of an asset is convertibility into cash without loss of value. Quick Ratio is calculated from dividing quick assets by current liabilities. The calculated quick ratios of the study unit are presented in table 4.8.

Table 4.8: Quick ratio

(in Rs.'0000)

Year	Quick Assets	Current Liabilities	Quick Ratio (times)
2058/59	230.75	224.91	1.03
2059/60	307.60	111.16	2.77
2060/61	290.49	73.79	3.94
2061/62	45.24	50.96	0.89
2062/63	110.60	56.25	1.97
2063/64	153.97	75.22	2.05
2064/65	142.22	103.44	1.37
2065/66	1297.80	141.5	9.17
Total	2601.78	837.23	Average = 3.11

Source: Worked out from Balance Sheet (Appendix-2).

In the table 4.8, I take the closing stock as inventories. There was no closing stock in the income statement of FY 2058/59 to 2060/61. So quick assets and current assets are same at that three year period.

In the above table 4.8, from beginning to the FY 2064/65, there is not more fluctuation in quick assets but in FY 2065/66 it is highly fluctuated. Because of heavy increment in cash & bank balances and sundry debtors than in previous years, it is happened. The quick ratio shows the ability for payment of immediate current debt from current assets. This study period has an average quick ratio is 3.11:1. By the observation of table 4.8, quick ratio is below the average except in FY2060/61and2065/66. But this ratio is above the standard of 1:1 during the research period except in FY 2061/62 i.e. 0.89:1. It shows the FHRC has good current financial position and has short term solvency. But the reason behind for the situation in FY 2061/62 is mainly heavy decrease in cash & bank and sundry debtors in comparison to previous year.

Fig. 4.7: Quick Assets & Current liabilities

(in Rs.'0000)

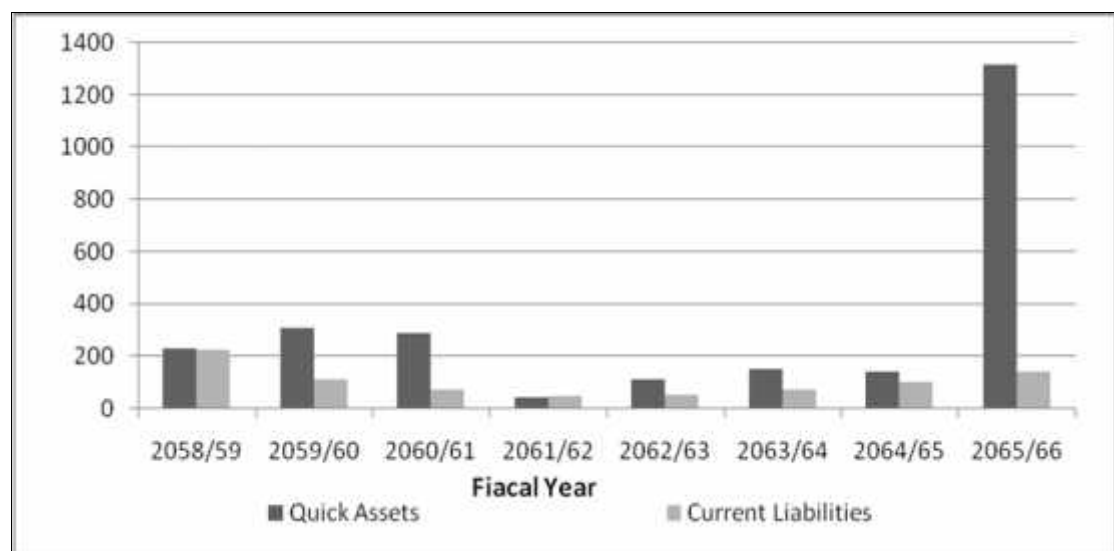


Fig. 4.7 shows the position of quick assets and current liabilities. By observation of figure 4.7 the quick assets are highly fluctuating than current liabilities and have not more consistent in growth over the study period. The

current liabilities are always less than the quick assets except in the FY2061/62. It shows the quick assets have good position at that period except in FY2061/62 and have good ability to meet short term obligations. From beginning to FY 2063/64, quick assets are in order of increasing and decreasing for two years. After that it is decreased in FY 2064/65 and highest increment in FY2065/66.

By the comparison between the analysis of current and quick ratio, it is found that the position of average current ratio is better than quick ratio and both ratios are above the standard.

iii. Net working capital Ratio

Working capital is the primary means of achieving the firm's goal of adequate liquidity. This ratio can help to manage the firm's current assets and liabilities in such a way that a satisfactory level of working capital is maintained. Net working capital is obtained by subtracting current liabilities from current assets. And net working capital ratio is calculated from dividing net working capital by total assets. Sound working capital position of a firm can make financial performance better. FHRC has not fixed any standard amount and percentage for working capital. To evaluate the NWC position, comparison has been made with in the research period. For that purpose, table 4.10 present the change in net working capital.

Table 4.9: Change in Net Working Capital

	(in Rs.'0000)							
	2058/59	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66
Total Current Assets (A)	230.75	307.6	290.49	50.17	117.51	160.64	146.82	1319.21
Total Current Liabilities (B)	224.91	111.16	73.79	50.96	56.25	75.22	103.44	141.50
Net Working Capital (A-B)	5.84	196.44	216.70	-0.79	61.26	85.42	43.38	1177.71
Net Increase or Decrease in NWC	(193.35)	190.60	20.26	(217.49)	62.05	24.16	(42.04)	1134.33

Source: Appendix-3.

As shown in table 4.9, the net change in working capital in the FY2058/59 is Rs. 5.84. Similarly, in the FY 2059/60 the amount of net change in working capital has increased by Rs.190.60 than the previous year.

In FY 2060/61, it is again increased by Rs. 20.26. The amount of net change in WC is decreased by Rs. 217.39 and amount of NWC reached to minus Rs. 0.79 in FY 2061/62. Likewise, in FY 2062/63 and 2063/64 it is increased by Rs. 62.05 and Rs. 24.16 respectively. Again it is decreased by Rs. 42.04 in FY 2064/65. But Net change in WC in FY 2065/66 is increased rapidly up to Rs. 1134.33.

From the above study, FHRC has not enough WC in the study period except in FY 2065/66. But in the FY 2061/62 working capital goes down to minus because of extreme decrease in current assets and NWC.

Table 4.10: Net working capital Ratio

(in Rs.'0000)

Year	Net Working Capital	Total Assets	Net working capital Ratio(times)
2058/59	5.84	1407.84	0.0041
2059/60	196.44	1649.77	0.1191
2060/61	216.70	2513.78	0.0862
2061/62	-0.79	2213.92	-0.0004
2062/63	61.26	2242.10	0.0273
2063/64	85.42	2554.66	0.0334
2064/65	43.38	4400.21	0.0099
2065/66	1177.71	6026.02	0.1954
Total	1785.96	23008.30	Average = 0.0776

Source: Appendix- 2 &3.

Table 4.10 shows that the amount of net working capital is highly fluctuated between from lowest negative amount of Rs. 0.79 in FY 2061/62 and to the highest amount of Rs. 1177.71 in FY 2065/66. It is in increasing order, from beginning to FY 2060/61 and decreased to the lowest negative amount of Rs. 0.79 in FY 2061/62. Then it is increased to FY 2063/64 and again decreased in FY 2064/65. At the last year of the study period there is high increase in amount of NWC because of high increase in mainly on cash & bank balances i.e. from sale of land, sundry debtors and closing stock. The amount of total assets is in increasing order in the research period except in the FY 2061/62 which also have lowest negative amount at that year. The

average NWC ratio is 0.0776 i.e. 0.08 times. In FY 2059/60, 2060/61 and 2065/66, the NWC ratio is above the average NWC ratio, and rest of the NWC ratio are less than the average NWC ratio.

Table 4.11: Trend Ratio and Net working Capital Ratio

Year	Net Working Capital Ratio (times)	Trend
2058/59	0.0041	0.0318
2059/60	0.1191	0.0397
2060/61	0.0862	0.0475
2061/62	-0.0004	0.0554
2062/63	0.0273	0.0633
2063/64	0.0334	0.0712
2064/65	0.0099	0.0791
2065/66	0.1954	0.0870

Source: Appendix – 7.

Fig. 4.8: Trend and Net working Capital Ratio

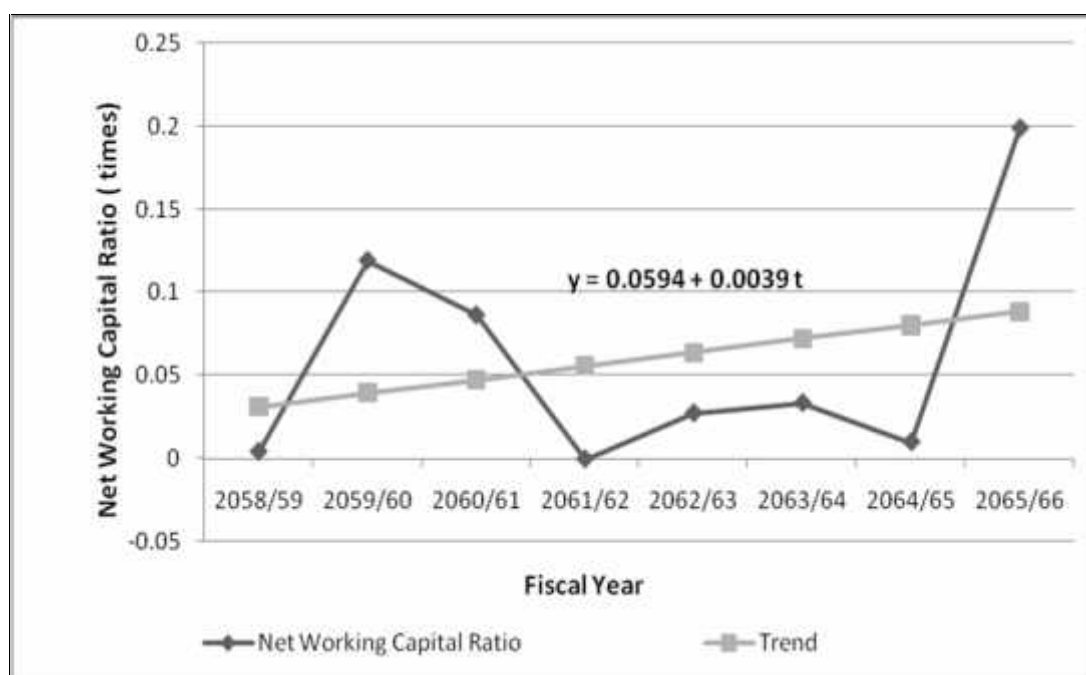


Figure 4.8 presents the trend of NWC ratio of past eight years. As shown in figure 4.8, the ratio has raised in the FY 2059/60 and come down to the FY 2061/62. Then it has increased up to FY 2063/64 and again decreased in FY 2064/65. Finally, it has highly increased in 2065/66. The slope of trend line determined by the least square method is positive. It indicates the

increasing trend in net working capital ratio of FHRC over the study period and has adequate liquidity.

iv. Days Cash on Hand Ratio

It illustrates the number of days the hospital could continue to operate without collecting any additional cash which measures to what degree cash and marketable securities cover daily expenditures. It includes only the short term sources. It is obtained from dividing current cash and investment by other operating expenses per day i.e. [(Total operating expenses – Interest – depreciation- tax) / 365].

Table 4.12: Days Cash on Hand Ratio

(in Rs.'0000)

Year	Current cash & Investments	Other Operating Expenses (O.O.E.)	Other Operating Expenses per day (O.O.E./ 365)	Days cash on Hand Ratio (in days)
2058/59	170.15	367.51	1.01	119
2059/60	268.83	451.55	1.24	136
2060/61	227.71	466.87	1.28	22
2061/62	17.29	536.79	1.47	12
2062/63	78.23	531.62	1.46	54
2063/64	103.63	598.58	1.64	63
2064/65	75.02	754.82	2.07	36
2065/66	965.30	880.24	2.41	400
Total	1556.15	4587.98	12.57	Average = 124

Source: Worked out from Appendix - 1 & 2.

According to table 4.12, the current cash and investments are highly fluctuating during the study period because of investment in fixed assets. It is low (Rs. 17.29) in FY 2061/62 and high (Rs. 965.30) in FY 2065/66. The other operating expense is increasing from initial year to FY 2061/62 and decrease in FY 2062/63. Again it is in increasing order up to FY 2065/66. The average days cash on hand ratio is 124 days. It shows that, in average the FHRC can run 124 days without collecting any additional cash which shows FHRC has the time to cover up the difficult situation. But the

benchmark of days cash on hand ratio is 60 days for Critical Access hospitals of USA.⁵⁶

Table 4.13: Trend Ratio and Days Cash on Hand Ratio

Year	Days Cash on Hand Ratio	Trend
2058/59	119	35
2059/60	136	55
2060/61	22	75
2061/62	12	95
2062/63	54	115
2063/64	63	135
2064/65	36	155
2065/66	400	175

Source: Appendix – 8.

Fig. 4.9: Trend and Days Cash on Hand Ratio

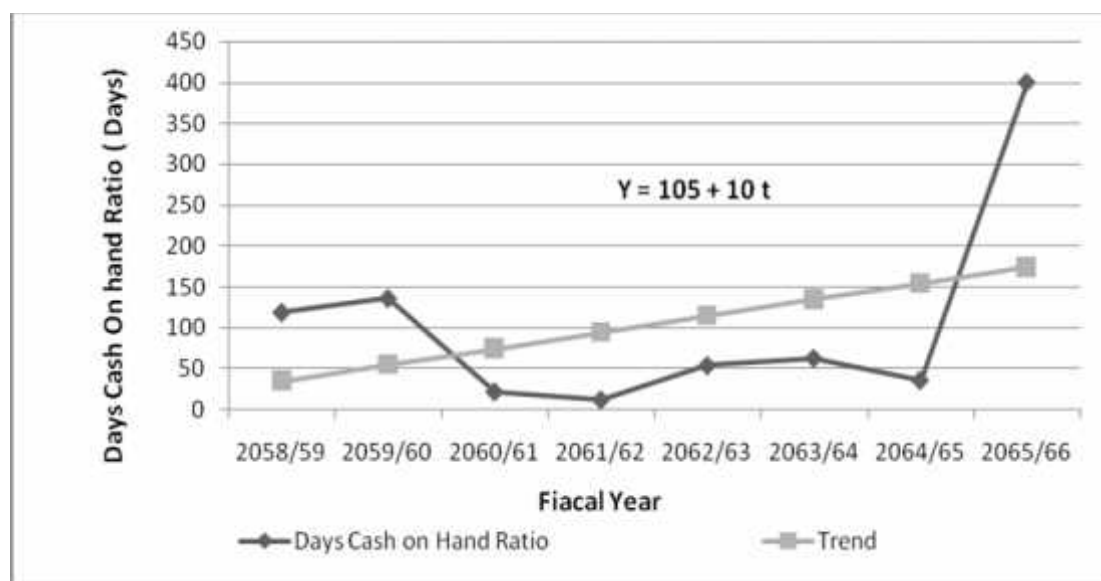


Figure 4.9 shows the variation on days cash on hand ratio among the study period and highly fluctuated, because of variation on current cash and investments. The lowest DCOHR is 12 days in FY2061/62 and highest is 400 days in FY 2065/66 during the eight year period. The slope of trend line

⁵⁶ George H. Pink, Mark Holmes and Rebecca Slifkin, “**Critical Access Hospitals and Financial Bench Mark Performance,**” (A Performance Monitoring Resource for Critical Access Hospitals, States, and Communities, November 2009), 1. February 16, 2011<http://www.flexmonitoring.org/documents/policybrief11_Benchmarks.pdf>

calculated by least square method is positive. This is the good sign for a FHRC to sustain in future for short term solvency.

b. Turnover/Activity ratios

Turnover ratio is the measure of the assets utilization capacity of a firm and it shows how efficiently the assets are mobilized. It measures how quickly a firm converts non cash assets to cash assets. It helps to improve and strengthen financial performance and to take corrective action to solve the financial problems occurred. For this purpose, different turnover ratios are used, especially fixed assets turnover ratio, total assets turnover ratio.

i. Fixed Asses Turnover Ratio

Fixed assets turnover ratio is calculated by dividing revenue by net fixed assets. To know how effectively the fixed assets are utilized in FHRC, the fixed assets turnover ratio has been calculated by taking eight years revenue and total net fixed assets as in the following table.

Table 4.14: Fixed Assets Turnover Ratio

(in Rs.'0000)			
Year	Revenue	Net Fixed Assets	Fixed Assets Turnover ratio (times)
2058/59	684.33	1153.40	0.5933
2059/60	679.98	1296.47	0.5245
2060/61	717.32	2187.64	0.3279
2061/62	816.98	2160.63	0.3781
2062/63	925.77	2121.78	0.4363
2063/64	1059.32	2410.97	0.4394
2064/65	1219.28	4251.11	0.2868
2065/66	1523.41	4704.76	0.3238
Total	7626.39	20286.76	Average = 0.3759

Source: Worked out from appendix – 1 & 2.

According to table 4.14 the revenue of the hospital has almost continuously increased during the study period. It has varied from Rs. 679.98 to Rs. 1523.41 from the FY 2058/59 to FY 2065/66. Along with increase in the revenue the volume of fixed assets of FHRC has also increased every year except FY 2061/62 and FY 2062/63. The net fixed assets has varied

from Rs.1153.40 to Rs. 4704.76 from the FY 2058/59 to 2065/66. The FHRC has been expanding its services and facilities in different departments. The FHRC required additional fixed assets, land and building, plant and machinery and other hospital equipments, etc. Therefore the fixed assets has increased every year with hospital related new equipments according to change in new technology and needs. The average ratio is 0.3759. This means that a rupee investment in fixed assets of FHRC has been generating revenue worth of Rs. 0.3759 which is good sign for FHRC.

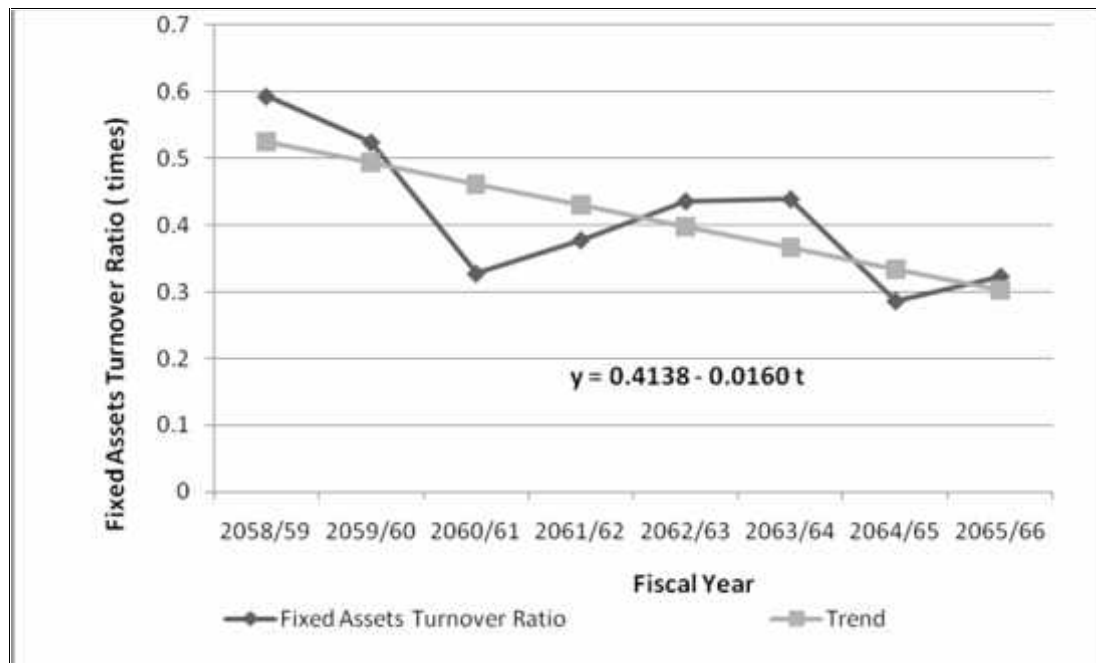
The fixed assets turnover ratio is fluctuating between high (i.e. 0.5933) in FY 2058/59 and low (i.e.0.2868) in FY 2064/65 during study period. The fixed asset has increased by 4.08 times in the year 2065/66 and revenue increased by 2.23 times.

The higher ratio is good for a firm, shows the better utilization of the fixed assets. If the ratio is low hospital should either increase revenue or sell some fixed assets, to recover from this situation. The proper utilization of the fixed assets can increase this ratio in future and the assets should not be remained idle.

Table 4.15: Trend Ratio and Fixed assets Turnover Ratio (times)

Year	Fixed Assets Turnover Ratio	Trend
2058/59	0.5933	0.5255
2059/60	0.5245	0.4936
2060/61	0.3279	0.4617
2061/62	0.3781	0.4297
2062/63	0.4363	0.3978
2063/64	0.4394	0.3659
2064/65	0.2868	0.3339
2065/66	0.3238	0.3020

Source: Appendix – 9.

Fig.4.10: Trend and Fixes Assets Turnover Ratio

As shown in figure 4.10, FATR has decrease in higher rate up to FY 2060/61 and increased up to FY 2063/64. Then rapidly decrease in FY 2064/65 and increased in FY 2065/66. The slope of trend line determined by the least square method is negative. It indicates the steady downward movement or decreasing trend in fixed assets turnover ratio. In conclusion, trend of this ratio is not in good condition because of the inefficient utilization of these assets. There has been high investment in the unproductive fixed assets like land and building. Therefore FHRC should change its working style so that the fixed assets can be used effectively.

ii. Total Assets Turnover Ratio

Total assets are sum of fixed and current assets. Fixed assets have direct effect on the generation of revenue. Other assets also contribute to increase revenue by giving more service facilities and hospital activities. Therefore, the firm must manage its total assets effectively and generate maximum revenue through proper utilization. This ratio shows the ability of generating revenue of FHRC from all the financial options available. It indicates the revenue generated per rupee of investment in total assets.

Table 4.16: Total Assets Turnover Ratio**(in Rs.'0000)**

Year	Revenue	Total Assets	Total Assets Turnover ratio (times)
2058/59	684.33	1407.84	0.4861
2059/60	679.98	1649.77	0.4122
2060/61	717.32	2513.78	0.2854
2061/62	816.98	2213.92	0.3690
2062/63	925.77	2242.10	0.4129
2063/64	1059.32	2554.66	0.4147
2064/65	1219.28	4400.21	0.2771
2065/66	1523.41	6026.02	0.2528
Total	7626.39	23008.30	Average = 0.3315

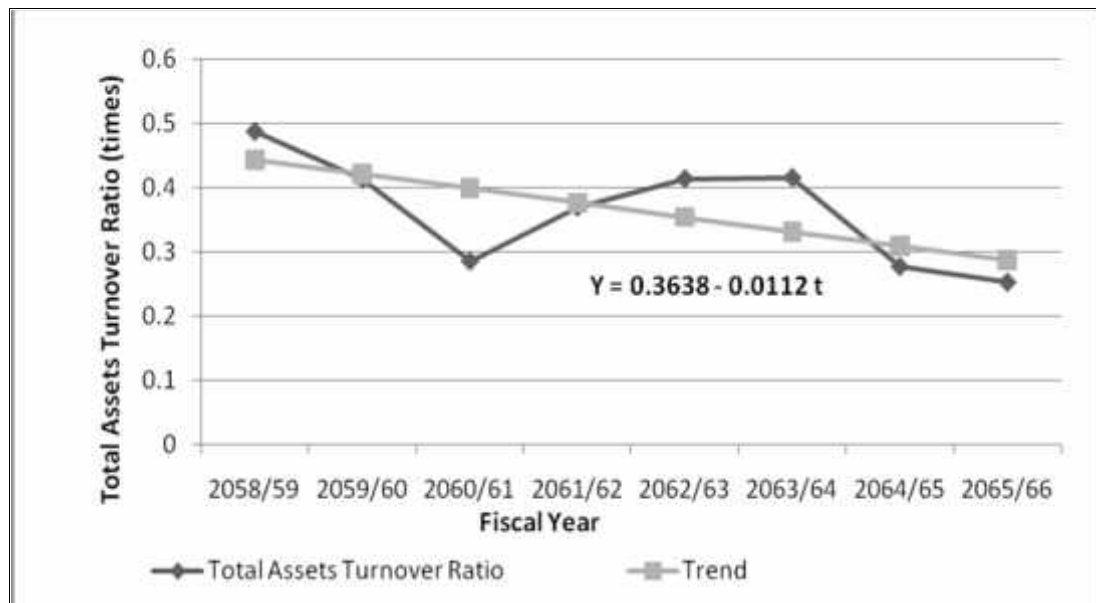
Source: Worked out from Appendix – 1 & 2.

As shown in table 4.16, the investment on total assets has increased in each year except FY 2061/62 as compared with the revenue generating ability. The revenue volume seems to be growing each year except in FY 2059/60. It has almost become 2.23 times more and the total assets increased by 4.28 times from FY 2058/59 to FY 2065/66. In FY 2058/59, FHRC has earned Rs. 0.4861 revenue for a rupee of investment in its total assets. After that showing decreasing trend up to FY 2060/61 and increased to FY 2063/64. Then it decreased up to FY 2065/66. On average FHRC has been able to produce Rs. 0.3315 revenue for one rupee investment in total assets during the study period.

Table 4.17: Trend Ratio and Total Assets Turnover Ratio

Year	Total Assets Turnover Ratio	Trend
2058/59	0.4861	0.4420
2059/60	0.4122	0.4196
2060/61	0.2854	0.3973
2061/62	0.3690	0.3749
2062/63	0.4129	0.3526
2063/64	0.4147	0.3303
2064/65	0.2771	0.3079
2065/66	0.2528	0.2856

Source: Appendix – 10.

Fig.4.11: Trend and Total Assets Turnover Ratio

According to above figure 4.11, the total assets turnover ratio is ranged from a minimum 0.2528 to maximum 0.4861. In total, the trend of total fixed assets turnover ratio has in decreasing trend. The slope of trend line determined by the least square method is negative. It indicates the steady downward movement. This reflects the FHRC is not effective in the utilization of its assets. The main cause of unsatisfactory result is low volume of revenue in comparison to investment made. The position clearly indicates that some major portion on assets of FHRC is remaining idle or they are not properly utilized.

Finally, the return on total assets of FHRC is Rs.0.3315 on the average. There has been unplanned investment in the assets of FHRC, without making proper analysis of cost and benefits.

c. Debt Management Ratios / Financial Leverage Ratios

Leverage implies the use of a lever to raise a heavy object with a small force in physics. In finance, using a small portion of debt can give better result on achieving goal of an organization. Leverage ratios measure the degree to which total assets are financed by owners compared with financing provided by creditors.

i. Debt Ratio

It is a long term solvency ratio. It measures the firm's ability to repay long term debt. Financial economists and academic papers will usually refer to all liabilities as debt. Total debt includes long term debt, current liabilities and other current liabilities. It is obtained from dividing total debt by total assets. It reflects the relative proportion of debt on total assets. If debt ratio is greater than 50%, then the organization has to face two types of risk. It is hard to get any additional loan on low interest and EPS will be decrease, and it can be go with bankruptcy in future.

Table 4.18: Debt ratio

(in Rs.'0000)			
Year	Total Debt	Total Assets	Debt ratio (%)
2058/59	224.91	1407.84	15.98
2059/60	111.16	1649.77	6.74
2060/61	721.20	2513.78	28.69
2061/62	290.96	2213.92	13.14
2062/63	56.25	2242.10	2.51
2063/64	75.22	2554.66	2.94
2064/65	561.77	4400.21	12.77
2065/66	502.32	6026.02	8.34
Total	2543.79	23008.3	Average = 11.06

Source: Worked out from Appendix – 2.

The above table 4.18 shows, the volume of total debt are not in order and it is low Rs. 56.25 in FY 2062/63 and high Rs.721.20 in FY 2060/61 during the study period. The total debt in FY 2058/59 is Rs. 224.91 and decrease in FY 2059/60, then increase next year. After FY 2060/61, it is in decreasing order up to FY 2063/64. Again it increase next year and decrease in FY 2065/66. The total assets is increasing from starting to FY 2060/61. There after, in two years it decrease and almost stable. Then it is in increasing order up to FY 2065/66 from FY 2063/64. The lowest total assets is Rs. 1407.84 in FY 2058/59 and highest Rs. 6026.02 in FY 2065/66. The average debt ratio is 11.06 %. The highest debt ratio is 28.29 % and lowest is 2.51%.

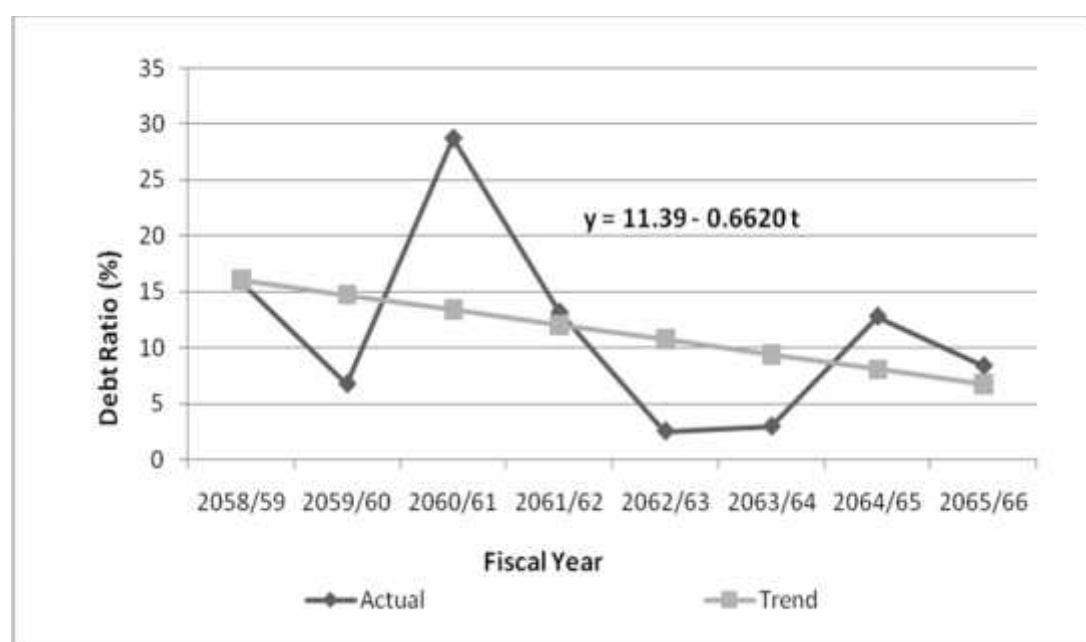
The debt ratio is higher than average in FY 2058/59, 2060/61, 2061/62 and 2064/65.

Table 4.19: Trend Ratio and Debt ratio (%)

Year	Debt Ratio	Trend
2058/59	15.98	16.02
2059/60	6.74	14.70
2060/61	28.69	13.37
2061/62	13.14	12.05
2062/63	2.51	10.73
2063/64	2.94	9.40
2064/65	12.77	8.08
2065/66	8.34	6.76

Source: Appendix – 11.

Fig. 4.12: Trend and debt ratio



The above figure 4.12 shows, the debt ratio is not in same order and fluctuating between lowest 2.51% to highest 28.69% during the study period. There is the proportion of debt in total assets is 11.06% in an average and FHRC have more ability to take loan in low interest rate if necessary. The debt ratio is not along with trend line and not in same order. It is in decreasing trend. The slope of trend line is negative calculated by least square method. It is good sign for FHRC that it can afford and pay loan successfully.

ii. Debt to Equity Ratio

This ratio can help us to analysis the long term liquidity of the firm i.e., its ability to meet long term obligations. It is computed by dividing the total debt by shareholders equity. It is also called capital adequacy ratio. It indicates the creditworthiness and financial risk of the firm. The greater the proportion of debt in relation to the equity, the greater is the risk to the firm as a whole.

Table 4.20: Debt to Equity ratio

(in Rs.'0000)			
Year	Total Debt	Shareholders Equity	Debt to Equity ratio (%)
2058/59	224.91	1182.93	19.01
2059/60	111.16	1538.61	7.22
2060/61	721.20	1792.58	40.23
2061/62	290.96	1922.97	15.13
2062/63	56.25	2185.86	2.57
2063/64	75.22	2498.92	3.01
2064/65	561.76	3838.44	14.64
2065/66	502.33	5523.69	9.09
Total	2543.79	20484.40	Average = 12.42

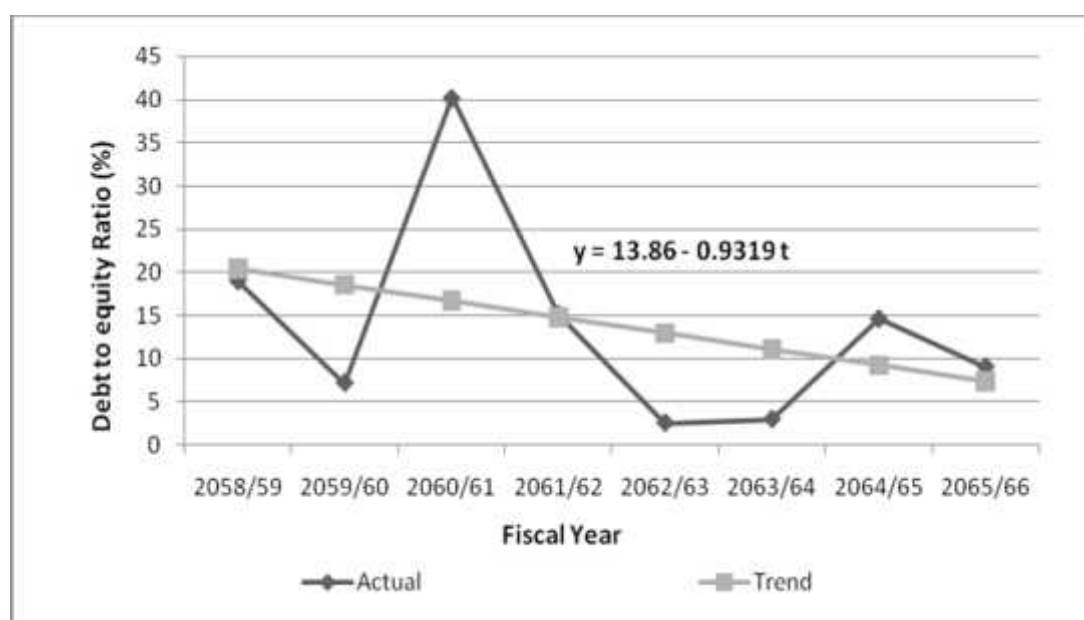
Source: Worked out from Appendix – 2.

Table 4.20 shows there is fluctuation in total debt. It is ranged from Rs.56.25 to Rs.721.20. The volume of shareholders equity is increasing rapidly during the study period. It is Rs.1182.93 in FY 2058/59 and Rs.5523.69 in FY 2065/66. By observation the debt to equity ratio is not in order and ranged from 2.57% to 40.23%. The average debt to equity ratio is 12.42%.

Table 4.21: Trend Ratio and Debt to Equity Ratio (%)

Year	Debt to Equity Ratio	Trend
2058/59	19.01	20.39
2059/60	7.22	18.52
2060/61	40.23	16.66
2061/62	15.13	14.79
2062/63	2.57	12.93
2063/64	3.01	11.07
2064/65	14.64	9.20
2065/66	9.09	7.34

Source: Appendix - 12.

Fig. 4.13: Trend and Debt to Equity Ratio

From figure 4.13, the debt to equity ratio is higher than the average ratio in FY 2058/59, 2060/61, 2061/62 and 2064/65 and no similarity with trend line. It is highly fluctuated. In FY2058/59, it is 19.01% and decrease below the average line next year. Then it is increased greatly up to 40.23% in FY 2060/61 and highest during the study period because FHRC take loan according to the needs to give more facility and services to the patients. There after it is in decreasing order up to FY 2062/63 which is below the average and trend line. Then it is increasing order to FY 2064/65 and it is above the average and trend line. The slope of trend line computed by least square method is negative and going downward. That means the degree of debt is

low comparing to equity. This condition indicates that FHRC has more creditworthiness and have no financial risk.

iii. Cash-flow to Debt Ratio

It is a measure of the ability of a company to serve its debt. This is the relationship of annual cash flow to the amount of debt outstanding (as total liabilities). The cash flow is defined as earning before interest, taxes, depreciation, and amortization (EBITDA). It is useful in assessing the creditworthiness of a company seeking debt funds. It also helps us to know the financial health of a company. It also illustrates financial risk and gives the firms sources of total funds for the current year and gives the answer of the question, how much of their total debt could they pay off this year? For example, a ratio of 30% means that a hospital would be able to repay a third of their debt in the current year, if they used all available fund.

Table 4.22: Cash-flow to Debt Ratio

(in'0000)

Year	Cash-flow (EBITDA)	Total Liabilities (i.e. Total Debt) (LTD + CL + Other CL)	Cash-flow to Debt ratio (times)
2058/59	316.82	224.91	1.41
2059/60	228.43	111.16	2.05
2060/61	250.45	721.20	0.35
2061/62	285.12	290.96	0.98
2062/63	396.13	56.25	7.04
2063/64	460.52	75.22	6.12
2064/65	462.38	561.76	0.82
2065/66	659.98	502.33	1.31
Total	3059.83	2543.79	Average = 1.20

Source: Worked out from Appendix – 1 & 2.

The table 4.22 gives us about the actual view of cash flow to debt ratio of FHRC of the period of eight years. The amount of EBITDA is in increasing order except FY 2059/60, during the study period. The total liabilities are

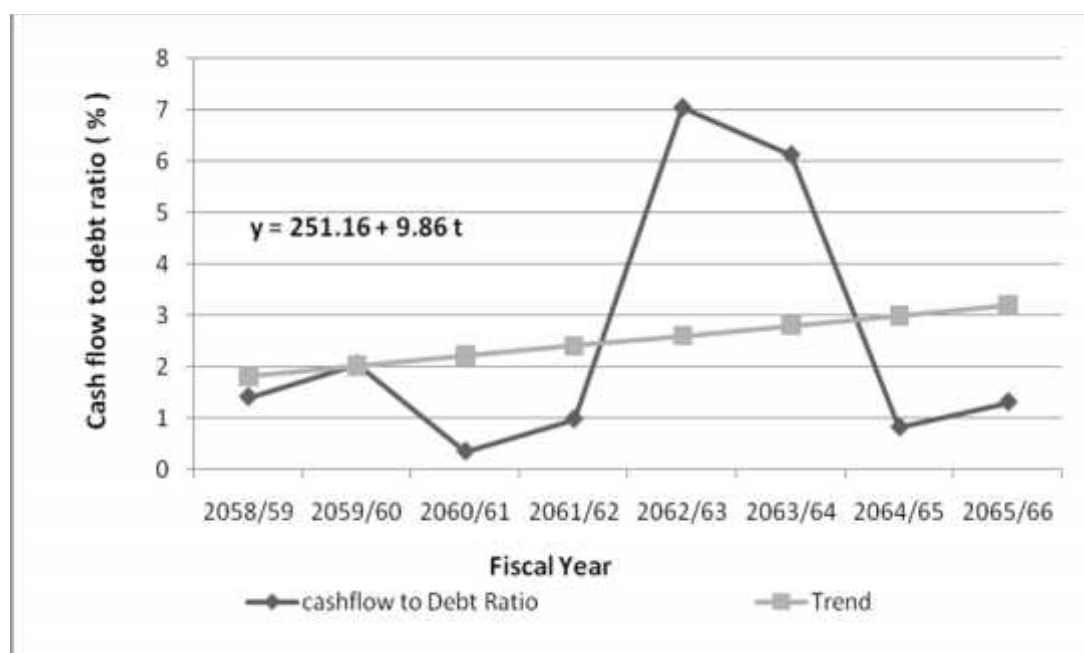
fluctuating between Rs.56.25 and Rs.721.20. The average cash flow to debt ratio is 1.20 times.

Table 4.23: Trend Ratio and Cash-flow to Debt Ratio

Year	Cash-flow to Debt ratio (%)	Trend
2058/59	1.41	1.82
2059/60	2.05	2.02
2060/61	0.35	2.22
2061/62	0.98	2.41
2062/63	7.04	2.61
2063/64	6.12	2.81
2064/65	0.82	3.00
2065/66	1.31	3.20

Source: Appendix – 13.

Fig. 4.14: Trend and Cash-flow to Debt Ratio



By observing figure 4.14, the cash-flow to debt ratio is not similar during the research period and fluctuating between 0.35 times and 7.04 times. It is not along with trend line. It is above the trend line only in FY 2062/63 and FY 2063/64. It shows the poor condition of cash flow to debt ratio of FHRC. But the trend line computed by least square method has positive slope which indicates the increase position. It is good sign for FHRC and should work hard to increase cash flow.

d. Profitability Ratios

Profitability ratios measure the firm's use of its assets and control of its expenses to generate an acceptable rate of return. Profitability ratios are two types, those showing profitability in relation to sales or revenue and those showing profitability in relation to investment. Together these ratios indicate the firm's overall efficiency of operations and earning capacity.

A company must earn sufficient amount of profit to survive and sustain in the future from its operation. The owner expects adequate return on their investment and the management concerns with measurement of operation efficiency. The adequate return and operating efficiency depend upon the profits earned by the firm. Profit is the ultimate outcome of a firm. Therefore, without profit, no firm can exist and the future of the company will be at risk. It is true that higher the profitability ratio better the financial position.

i. Profitability in relation to revenue**Net Profit Margin**

This ratio establishes the relationship between net profit and sales revenue. Net profit is obtained by deducting operating expenses, interest and taxes from the gross profit. It measures the firm's ability to change each respect revenues into net profit.

Sales (revenues) are the self-motivated force in a business activity. In general, business may not be successful without sufficient sales of goods or services.

Table 4.24: Net Profit Margin**(in Rs.'0000)**

Year	NPAT	Revenue	Net Profit Margin (%)
2058/59	250.15	684.33	36.55
2059/60	133.10	679.98	19.57
2060/61	130.48	717.32	18.19
2061/62	126.70	816.98	15.51
2062/63	240.97	925.77	26.03
2063/64	345.48	1059.32	32.61
2064/65	248.13	1219.28	20.35
2065/66	420.23	1523.41	27.58
Total	1895.24	7626.39	Average = 24.85

Source: Worked out from Appendix- 1.

According to the table 4.24, the volume of NPAT is fluctuating between Rs.126.70 and Rs.420.23. But the revenue is in increasing order except in FY 2059/60 during the study period. The lowest volume of revenue is Rs.684.33 in FY 2058/59 and highest volume is Rs.1523.41 in FY 2065/66. The net profit margin is ranged from 15.51% to 36.55% on eight year period. The average net profit margin is 24.85% which is in satisfactory level because “an average total profit margin of 4.7 percent is more than adequate for hospitals.”⁵⁷

Table 4.25: Trend Ratio and Net Profit Margin (%)

Year	Net Profit Margin	Trend
2058/59	36.56	24.76
2059/60	19.57	24.70
2060/61	18.19	24.64
2061/62	15.51	24.58
2062/63	26.03	24.52
2063/64	32.61	24.46
2064/65	20.35	24.40
2065/66	27.58	24.34

Source: Appendix – 14.

⁵⁷ Richard L. Clarke, “A Case for Better Standards- Hospital Financial Management- Column,” **Healthcare Financial Management** (August, 1991): 1. February 9, 2010 <http://findarticles.com/p/articles/mi_m3257/is_n8_v45/ai_1162788>.

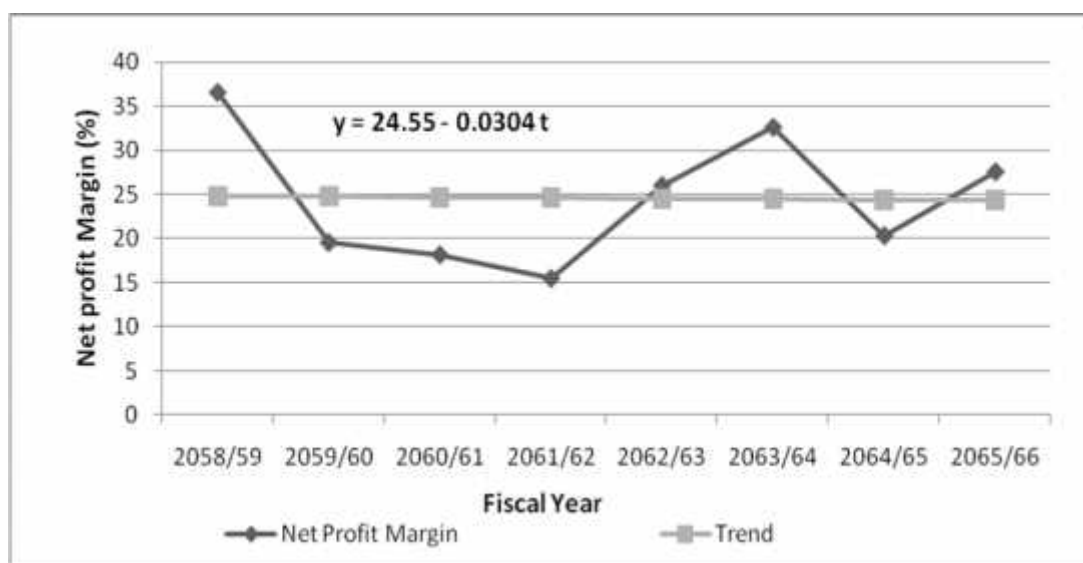
Fig. 4.15: Trend and Net Profit Margin

Figure 4.15 shows the observed value of net profit to revenue ratio is along with trend line. In FY 2058/59, 2062/63, 2063/64 and 2065/66 it is above the trend line. There is sharp decline on net profit margin ratio in FY 2059/60. This ratio is in decreasing order from FY 2058/59 to FY 2061/62 because of heavy increase in administrative expenses, salary & allowances, hospital service expenses and all other expenses in relation to increase in revenue. Then it is increased up to FY 2063/64. After that it is again decreased in FY 2064/65 and again increased in FY 2065/66. The slope of trend line obtained from least square method is slightly negative. So that FHRC should take positive action i.e., it should reduce small or negligible amount of each and every expense under the different expense heads to improve the NPAT and recover it as far as possible. FHRC should know the proverb that the collection of small drops makes the ocean.

Operating Expenses Ratio

This ratio establishes relationship between operating expenses and sales revenue. It measures the operating efficiency. In this study operating expenses includes all general administrative expenses and COGS excluding Interest and taxes. It indicates the average aggregate verity in expenses, where some of the expenses may be increasing while some may be falling. This ratio

throws light on managerial policies and programs. A lower operating ratio is favorable and higher is unfavorable.

Table 4.26: Operating Expenses Ratio

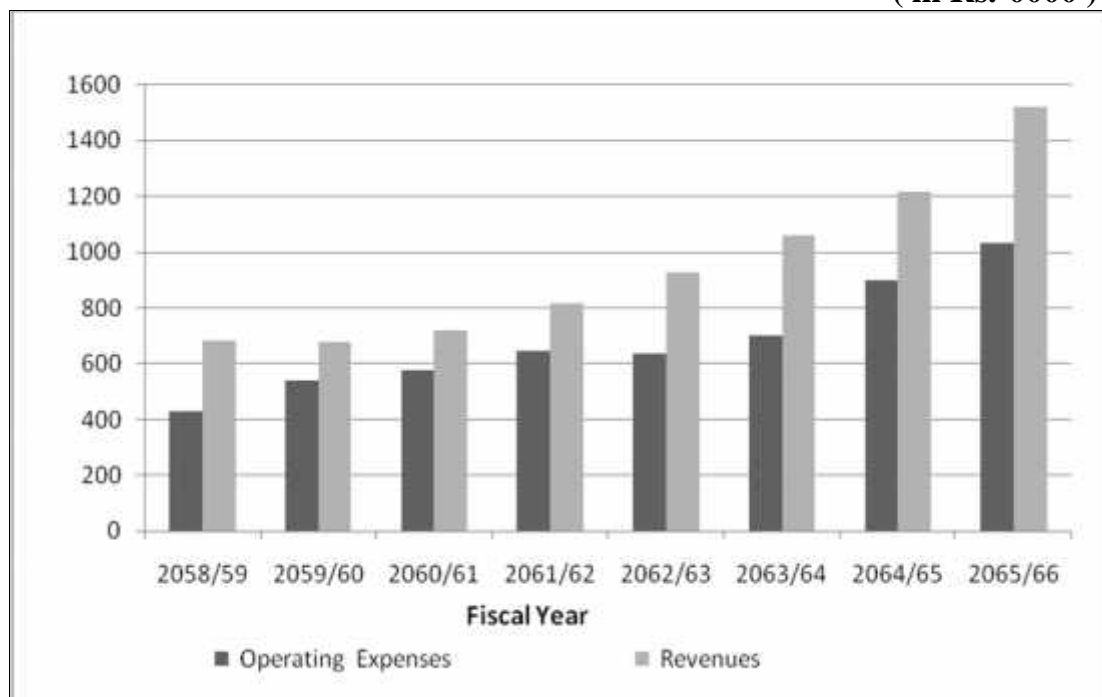
(in Rs.'0000)

Year	Total Operating Expenses	Revenues	Operating Expenses Ratio (%)
2058/59	428.35	684.33	62.59
2059/60	539.48	679.98	79.34
2060/61	576.51	717.32	80.37
2061/62	647.52	816.98	79.26
2062/63	637.30	925.77	68.84
2063/64	700.64	1059.32	66.14
2064/65	898.50	1219.28	73.69
2065/66	1033.42	1523.41	67.84
Total	5461.72	7626.39	Average =71.62

Source: Worked out from Appendix – 1.

As shown in table 4.26, the operating ratio of FHRC is 62.59% in the FY 2058/59 that indicates the 62.59% of revenues are consumed by operating expenses and allows 37.41% of revenue to cover the interest and other charges. In this year a good margin of revenue is left. However, the operating expenses increased in the subsequent years. Likewise in the FY 2060/61, there is highest operating expenses ratio of 80.37% which allows a margin of 19.63% to meet other expenses. In average 71.62% of revenue has been used by operating expenses and rest (28.38%) of revenue to cover interest and other expenses.

The volume of depreciation increased due to heavy additional purchase of plants and, should utilize under proper planning. FHRC has to formulate a concrete and sustainable policy to earn good revenue from assets utilization, otherwise will result in heavy expenses and whole operating efficiency of FHRC will be at risk.

Figure 4.16: Growth of Operating Expenses & Revenue**(in Rs.'0000)**

As shown in figure 4.16 and table 4.26, the net operating expense ratio has increased up to FY 2060/61. It is due to heavy increase in administrative expenses, repair & maintenance expenses, surgical expenses and depreciation. Then it is decreased for next three years. It is increased again in FY 2064/65 and decreased in last year. The net operating expense ratio has decreased as operating expenses increase in relation to revenue in the year 2063/64 and 2065/66. The changes in the operating ratios are mainly due to changes in revenue and operating expenses.

The operating expense ratio is less than the average ratio in the FY 2058/59, 2062/63, 2063/64 and 2065/66. It is symbolic of good status. The correlation coefficient between operating expenses and revenue is 0.97 and the probable error of correlation is 0.0159, which is lower than correlation coefficient. Therefore this correlation coefficient is significant. It indicates that the operating expenses and revenues are positively correlated and both variables are moving in the same direction.

ii. Profitability in relation to investment

Return on Asset

Return on assets is the relationship between total assets and net profit after tax. This shows the percentage of net profit on total assets. The profitability position of a firm can be measured in relation to investment. A firm makes a lot of investment on its assets with the expectation that assets will yield a reasonable profit. The ROA ratio measures the profitability of all financial resources employed in the firm's assets. The relationship of satisfactory level of profit is the main objective of the firm.

Table 4.27: Return on Assets

(in Rs.'0000)			
Year	NPAT	Total Assets	Return on asset (%)
2058/59	250.15	1407.84	17.77
2059/60	133.10	1649.77	8.07
2060/61	130.48	2513.78	5.19
2061/62	126.70	2213.92	5.72
2062/63	240.97	2242.10	10.75
2063/64	345.48	2554.66	13.52
2064/65	248.13	4400.21	5.64
2065/66	420.23	6026.02	6.97
Total	1895.25	23008.30	Average = 8.24

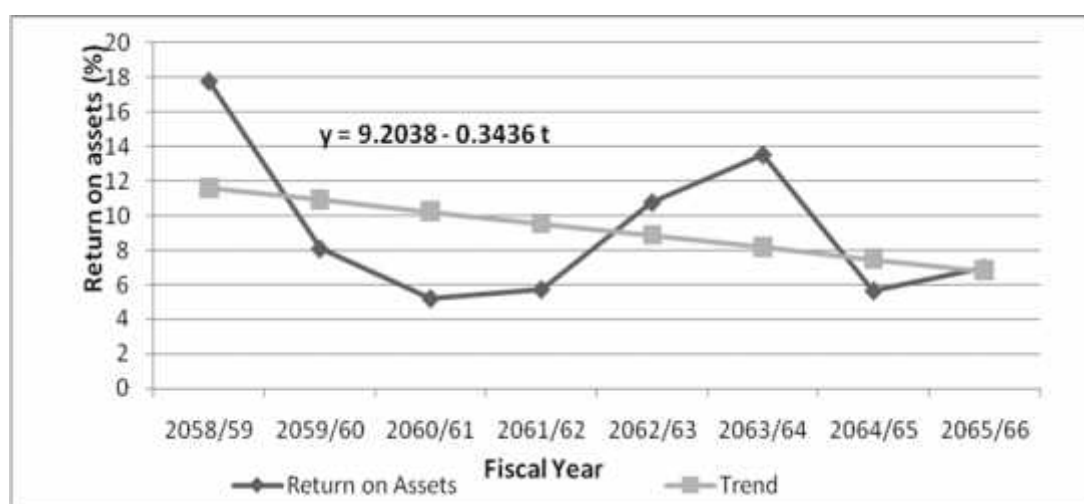
Source: Worked out from Appendix – 1 & 2.

From the above table 4.27, the return on total assets of FHRC is 17.77% in FY 2058/59. It is the highest and satisfactory return for FHRC and is more than average. The average ROA is 8.24%. Then it is decreased to FY 2060/61. The deterioration of the ROA is the result of heavy administrative, repair & maintenance expenses. After that it is in increasing order to FY 2063/64. Again it is decreased next year and increased another year. In FY 2058/59, 2062/63 and 2063/64, the ROA is higher than the average ROA.

Table 4.28: Trend Ratio and Return on Assets (%)

Year	Return on Total Assets	Trend
2058/59	17.77	11.61
2059/60	8.07	10.92
2060/61	5.19	10.24
2061/62	5.72	9.55
2062/63	10.75	8.86
2063/64	13.52	8.17
2064/65	5.64	7.49
2065/66	6.97	6.80

Source: Appendix – 15.

Fig.4.17: Trend and Return on assets

The figure 4.17 shows clearly that the volume of total assets has increased mostly over the years. As the result, the ratio has deteriorated in most of the years. The ROA is not in satisfactory level in all years. The observed values of the return on total assets ratio are fluctuating and slope of the trend line is negative.

The increase in investment caused the lower ROA. FHRC should concentrate on proper utilization of assets. The return on total assets percentage shows only the satisfactory level and above the average in three years that is FY2058/59, 2062/63 and 2063/64. But in other years it is not able to cover the average rate of return on total assets. The return is low in relation to the total assets. It means the return has not increased appropriate to the increase in the investment on total assets.

Return on Equity

This ratio tells us the earning power on shareholders' book investment. It measures the firms' efficiency at generating profits from every unit of shareholders' equity (also known as net assets or assets minus liabilities). ROE shows how well a company uses investment funds to generate earnings growth. It is computed from dividing NPAT by shareholders' equity.

Table 4.29: Return on Equity

(in Rs.'0000)			
Year	NPAT	Shareholders Equity	Return on Equity (%)
2058/59	250.15	1182.93	21.15
2059/60	133.10	1538.61	8.65
2060/61	130.48	1792.58	7.28
2061/62	126.70	1922.97	6.59
2062/63	240.97	2185.86	11.02
2063/64	345.48	2498.92	13.83
2064/65	248.13	3838.44	6.46
2065/66	420.23	5523.69	7.61
Total	1895.25	20484.00	Average = 9.25

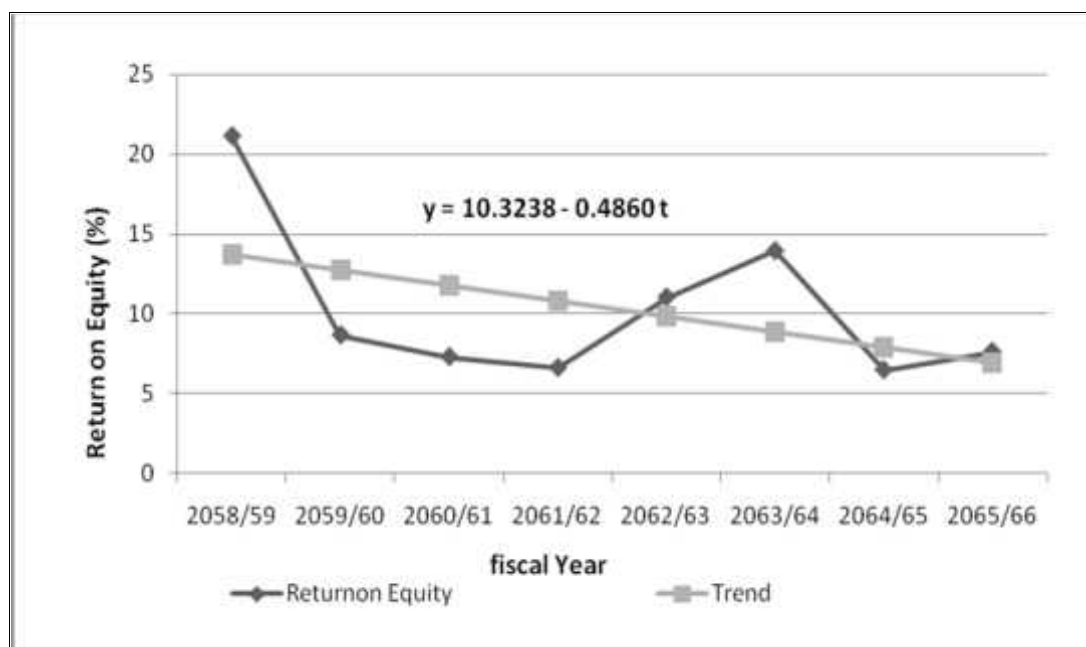
Source: Worked out from Appendix –1 & 2.

According to table 4.29, the amount of NPAT is Rs.250.15 in FY 2058/59. Then it is in decreasing order up to FY 2061/62 and increased for next two years. Again decreased in FY 2064/65. In the last year of the study period it is increased to Rs.420.23 which is the highest amount of NPAT. The lowest NPAT is Rs.126.7 in FY 2061/62. The amount of shareholder's equity is Rs.1182.93 in FY2058/59 and is in increasing order up to FY 2065/66 to the highest amount of Rs.5523.69. The average ROE is 9.25%. Only in FY 2058/59, 2062/63 and 2063/64, the ROE is greater than average ROE.

Table 4.30: Trend Ratio and Return on Equity (%)

Year	Return on Equity	Trend
2058/59	21.15	13.73
2059/60	8.65	12.75
2060/61	7.28	11.78
2061/62	6.59	10.81
2062/63	11.02	9.84
2063/64	13.83	8.87
2064/65	6.46	7.89
2065/66	7.61	6.92

Source: Appendix – 16.

Fig. 4.18: Trend and Return on Equity

The figure 4.18 shows that the ROE is greatly decreasing from starting to FY2061/62 and increase up to FY 2063/64. But again it is decrease in FY 2064/65 and slightly increased in last year of study period. The ROE is along with trend line in fluctuating manner. The slope of trend line is negative. The NPAT is not increased in same manner in comparison to shareholder's equity. This shows the equity is not used properly and effectively.

4.2 Major Findings of the Study

On the basis of data presentation and analysis, the major findings of the study are as follows:

- 4.2.1 It is found that the volume of revenue of FHRC is almost increasing regularly during the study period except the FY 2059/60. Revenue is increased nearly by 25.94% (Rs.684.33 in '0000) from different heads in the fiscal year 2058/59 with respect to the fiscal year 2059/60. It is in increasing order during the study period except in FY 2059/60. The trend line interprets that the revenue goes up almost along with it, i.e. slightly lower than the trend line. But at the end of study period, it is above the trend line.
- 4.2.2 As per the analysis, it is found that the total revenue during the study period is generated from indoor income is 49.57%, Outdoor income is 33.39%, emergency income is 3.09%, injection income is 0.42%, miscellaneous income is 0.21% and other income is 13.29%.
- 4.2.3 From the trend analysis, the total expenditure is in slightly fluctuating position with trend line. But at the end of study period, it is higher than the trend line.
- 4.2.4 It is found that the salary allowances cover 50.69% of the share of total expenditure, depreciation covers 15.87%, administrative expenses covers 12.70%, hospital service covers 10.50% and other expenditure heads cover 10.24% of total expenditures. The fiscal year 2065/66 covers 19.30% of total expenditures during the study period which is the highest among other FYs.
- 4.2.5 The liquidity position of the FHRC as shown by current and quick ratio is in increasing trend during the eight year period. The least square trend analysis shows the positive slope of the trend line. The current ratio is 3.13:1 and quick ratio is 3.11:1 in average over the study period. The low amount of inventory supports quick ratio to be higher than standard. In average the current ratio is higher than the

standard i.e. 2:1 by the effect of huge amount of cash and bank balances. The current assets and current liabilities are positively correlated.

- 4.2.6 During the research period, the volume of net working capital is increasing on highly fluctuating manner due to irregular increase in current assets, and decrease to the negative amount. But the trend of NWC ratio by least square method is increasing with the positive slope.
- 4.2.7 The Days cash on hand ratio is in fluctuating position due to variation on current cash and investment amount. It is 124 days in average over the eight year period. That means the FHRC can run for 124 days fluently and sufficiently without collecting any additional cash. The least square trend analysis shows positive slope of trend line.
- 4.2.8 The amount of net fixed assets and total fixed assets, and revenue are moving upward in the same way. The FHRC has invested huge amount on the assets but the revenue generating ability is very poor, but in average low position in comparison to the investment on assets. The slope of fixed and total assets turnover ratio from least square trend analysis is negative. The average fixed assets and total assets turnover ratio are 0.376 times and 0.3315 times respectively.
- 4.2.9 It is found that the debt ratio and debt to equity ratio are fluctuating in the study period. It is affected by irregularity in long term loan. In average, debt ratio is 11.06% and debt to equity ratio is 12.42%. There is negative slope of trend line determined by least square method of both ratios.
- 4.2.10 From the analysis of financial, statement it can be found that cash-flow to debt ratio is highly fluctuating over the study period due to the lower liabilities i.e. irregularities in long term loan. The average cash-flow to debt ratio is 1.20 times. The slope of trend of cash-flow to debt ratio obtained from least square trend analysis is positive.

- 4.2.11 Net profit margin has slightly negative slope obtained from least square trend analysis. The cause behind this, FHRC is in expansion stage. So there is heavy increase in hospital operating expenses along with expansion on hospital related fixed assets i.e. medical equipments and machinery and patient care facilities. The average net profit margin is 24.85%. Net profit margin ratio is in fluctuating order.
- 4.2.12 Operating expense has increased each year. Operating expenses have not exceeded revenue toward the study period. In average 71.02% of revenue has been used by operating expenses and rest i.e. 28.38% of revenue to cover interest and other expenses. The operating expenses in relation to the revenue have not been increased in that trend.
- 4.2.13 Trend analysis of return on assets ratio by least square method shows that there is negative slope. That means the return has not increased as increase in the investment because the FHRC is in expansion phase at the eight year period. The average return on assets is 8.24%. The ROA ratio is in fluctuating position during the research period.
- 4.2.14 The ROE ratio is not same and it is fluctuating over the study period due to decrease in NPAT in different years and regular increase in shareholder's equity. In average the ROE ratio is 9.25%. The slope of trend line from least square method is negative. That means NPAT has not increased proportionately to increase in shareholder's equity.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with the summary of the whole research work, conclusion and recommendations for the future plans, corrective actions for the challenges facing of Fishtail Hospital and research center Pvt. Ltd.

5.1 Summary

Nepal is small landlocked South Asian Himalayan country situated in between India and China. About half of the population is estimated living in below the international poverty line. Due to the economically powerful neighbor countries, Nepal is facing big challenges to improve its business.

To meet the need of safe, standard and affordable health services to the people of Western Region, Fishtail Hospital and Research Pvt. Ltd. is established in 2055 B.S. in Pokhara. This is a first private hospital initiated by technical and non- technical people of this area. This is a 50 bed hospital and provides most of the health services in its premises and gives 50% discount to elderly nationals older than 80 years in all its services. The main purpose of this hospital is to provide safe, standard and affordable health services to the people, to give support in different social services like free health camps for the cleft-lip and palate patients, to research the health related problems in this area, and to train the middle level health manpower.

This hospital should have good financial management in competitive environment to run effectively and to sustain in future. For this crucial fact financial performance analysis is very important to know the financial health of hospital.

To study in financial performance of hospital is new issue in Nepal. The general objective of purposed study is to analyze the present status of

financial performance. To meet this objective, this study associated with some specific objectives to analyze the performance through revenue, expenditure trend analysis and financial ratio analysis with its trend. Various materials were reviewed in order to build up the conceptual foundation and to find out the clear destination of the research work. Background of FHRC, concept of financial performance analysis, ratio analysis i.e. liquidity, debt management, turnover and profitability ratios were reviewed as conceptual review. This thesis included review of articles in research review section.

This thesis covers only eight year period from 2058/59 to 2065/66 B.S. It is concerned with the financial statement analysis of FHRC. The study was designed within the framework of descriptive and analytical research design and the analysis has been made in the same way. The required data and information were collected from secondary and primary sources. Collected data has been analyzed using financial ratios, simple mathematical and statistical tools with least square trend analysis to get the meaningful result. It interprets and explains the trend of revenue, expenditure, and financial ratios.

The analysis has been made into two ways i.e. year wise revenue, expenditure and ratio comparison with average for standard, and fit the trend line. The growth of revenue and trend are in increasing order. The growth rate is up to 25.94% in FY 2058/59 with respect to FY 2057/58. But the expenditure is fluctuating in beginning and at last it is above the trend line. As a result the trend line of expenditure is increasing during the study period.

The current assets and current liabilities are positively correlated. In average current ratio of FHRC for eight years is grater than the standard norms of 2:1. The positive slope of trend line indicates current ratio is increasing during the study period. The average quick ratio is 3.10 and above the standard 1:1 because of low amount of inventory. In average, quick asset is higher than current liabilities. The average net working capital is 0.0776. Because of positive slope, trend line by least square method is increasing upward. The days cash on hand ratio is fluctuating because of variation on current cash and investment. But positive slope of trend line lead the trend

line toward increasing trend. The average cash on hand ratio is 124 days which indicates FHRC can run 124 days continuously without collecting any additional cash.

The activity ratios fixed assets turnover and total assets turnover is fluctuating and have negative slope of trend line because of investing huge amount to assets but the revenue generating ability is in low position. Due to expanding stage of hospital, it is happened.

The debt management ratios i.e. debt ratio and debt to equity ratio are in fluctuating position and have negative slope of trend line due to irregularity in long term loan. But the cash-flow to debt ratio is in increasing trend having positive slope of trend line. This ratio is 1.20 times in average over the study period.

The profitability ratios net profit margin, return on assets and return on equity have negative slope of trend line and in decreasing trend due to increase in investment on assets. The return has not increased proportionately to increase in the investment on assets. The average profit margin, return on assets and return on equity are 24.85%, 8.24% and 9.25% respectively. The operating expense has increased each year but not exceeded revenue. In average 71.62% of revenue has been used by operating expenses and rest 28.38% of revenue covers the interest and other expenses and has positive correlation coefficient between operating revenue and expenses.

5.2 Conclusions

On the basis of findings of the study, following conclusions have been drawn.

5.2.1 As per findings, it is concluded that revenue collection of FHRC is going upward almost along with trend line having positive slope by least square method. The indoor income source has played vital role and it is about 50% of total revenue over the study period. The average revenue collection is Rs. 953.30.

- 5.2.2 As per findings, the fluctuated expenditure also going upward with the trend line having positive slope by least square method and average expenditure is Rs. 705.14. The salary allowance, depreciation and administrative expenses cover 50.69%, 15.87% and 12.70% of the total expenditure respectively during the study period.
- 5.2.3 The increasing trend of liquidity position as explained by the least square trend analysis shows that current ratio and quick ratio of FHRC are increasing due to increase in cash & bank and sundry debtors in average. The net working capital ratio is in increasing trend having positive slope by least square method and days cash on hand ratio of FHRC is also increasing due to increase in current cash. This concludes that the liquidity position of FHRC is increasing year by year. Similarly, the observed values of the liquidity ratios show the good liquidity position over the study period.
- 5.2.4 By analysis it is concluded that activity ratios i.e. fixed assets turnover ratio and total assets turnover ratio are in decreasing trend having negative slope from least square trend analysis. It is so happened because of huge investment in fixed assets and the management of FHRC could not utilize the assets properly.
- 5.2.5 From the debt management ratio analysis it is concluded that the slope of trend line of debt ratio and debt to equity ratio calculated by least square method are negative and show low amount of debt used. The positive slope of cash-flow to debt ratio shows FHRC has the ability to serve its debt and has the creditworthiness to seek the debt funds.
- 5.2.6 The analysis shows that profitability ratios i.e. net profit margin, return on assets and return on equity have negative slope of trend line determined by the least square trend analysis. It is so concluded that there is no proper and effective utilization of assets and equity. The revenue earned is low in comparison to the investment made. But the profit margin is in satisfactory level and should take corrective action

to make positive slope of trend line i.e. either decrease the expenses or increase the profit more.

- 5.2.7 As per findings, the operating ratio is high because of high administrative, repair and maintenance, surgical expenses and depreciation. A lower operating ratio is favorable. It achieved average financial performance. But have positive correlation coefficient in between operating revenue and expenses.

5.3 Recommendations

Based on the above conclusions, following recommendations have been made to improve the financial performance of FHRC.

- 5.3.1 FHRC should maintain the prevailing state of revenue and should increase this position by giving more and better indoor and rest of the services. The increase in patients can raise the revenue collection. It is possible by providing favorable environment for patients.
- 5.3.2 There is heavy expenditure on salary allowances, depreciation and administrative expenses respectively. It should take corrective action to reduce the expenditure if possible. If there is idle and old fixed assets that can not produce appropriate revenue, FHRC should sale that types of fixed assets to reduce heavy depreciation expense. Effective utilization of staff and reduction on administrative expense are recommended for FHRC.
- 5.3.3 The increasing trend of liquidity position is a good indicator for FHRC. It should maintain the standard of 2:1 and should utilized idle current assets and working capital to make more revenue generating.
- 5.3.4 The trend of turnover ratio is decreasing. The proper utilization of the idle assets can bring FHRC to upward position. The unproductive fixed assets like land should utilize to generate more revenue, otherwise sold it. It needs to manage fixed asset and current assets productivity and profitability. If it can be so done, it can earn more than average in fixed assets and total assets. So, it is recommended that FHRC should not

invest in any plant or assets without making proper cost benefit and target analysis. When investment is made, effort should be given to the optimum utilization of such assets within target.

- 5.3.5 Debt ratio and debt to equity ratio have negative slope of trend line determined by least square method. In average the low portion of debt on total assets and on equity is used. The positive slope of cash- flow to debt ratio also shows that its ability to serve its debt. It is the good indicator for FHRC and has better health and no financial risk. Therefore this position should be maintained and improved.
- 5.3.6 FHRC should control its operating as well as non-operating expenses with unproductive expenses (bad debts, repair & maintenance, land & building taxes) and work hard to increase and maintain its profit to make the slope of trend line positive. It should increase efficiency of operation and earning capacity to survive and sustain in future in competitive environment, because higher the profitability ratio better the financial position. It should increase its return appropriately in relation to assets and equity. Management should make efforts on the optimum utilization of its fixed assets and sold unproductive assets that have negligible cost benefit.
- 5.3.7 The financial performance of the FHRC should be evaluated timely through ratio analysis and other relevant financial and mathematical tools and models which help the hospital to know the financial strength and weaknesses in order to sustain in highly competitive business environment in present and future.

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APPENDIX – 1
Fishtail Hospital & Research Center Pvt. Ltd.
Comparative Income statement

(In Rs. '0000)

Year Particular	2058/59	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66
Revenue								
Indoor Income	414.97	371.47	351.45	386.49	453.08	495.41	584.76	723.04
Outdoor Income	209.55	250.82	277.34	307.02	289.52	348.07	387.19	477.32
Emergency Income	0.00	0.00	0.00	0.00	43.48	54.91	69.29	68.01
Injection Income	0.00	0.00	0.00	0.00	10.05	9.67	7.00	5.29
Miscellaneous Income	5.73	0.18	0.23	0.02	3.06	0.08	1.46	5.60
Other Income	53.08	57.51	88.30	123.45	126.58	151.18	169.58	244.15
Total Revenue (A)	684.33	679.98	717.32	816.98	925.77	1059.32	1219.28	1523.41
Expenses								
other expenses								
Opening Stock	0.00	0.00	0.00	0.00	4.93	6.90	6.68	4.60
(-) Closing Stock	0.00	0.00	0.00	-4.93	-6.91	-6.68	-4.60	-21.41
Total other expenses(o/s - c/s) (B)	0.00	0.00	0.00	-4.93	-1.98	0.22	2.08	-16.81
Gross Revenue (A-B) (C)	684.33	679.98	717.32	821.91	927.75	1059.10	1217.20	1540.22
Other Operating Expenses								
Administrative	57.89	72.79	84.61	110.25	93.23	79.66	100.98	117.19
Salary Allowance	228.93	286.31	291.53	304.23	318.80	377.31	495.05	557.23
Hospital service	64.52	62.21	59.87	68.92	71.59	74.30	88.34	102.81
Repair and Maintenance	5.63	17.54	13.41	30.53	20.08	24.21	27.70	30.77
Surgical Expenses	9.92	12.27	17.02	22.52	20.10	30.40	36.18	59.11
Cleaning Expenses	0.00	0.00	0.00	0.00	5.82	5.40	4.30	7.32
Preliminary Exp. Write off	0.62	0.43	0.43	0.35	0.31	0.28	0.26	0.23
Excess excise duty paid	0.00	0.00	0.00	0.00	1.69	7.02	2.01	5.57
Total Other operating Expenses(D)	367.51	451.55	466.87	536.79	531.62	598.58	754.82	880.24
EBITDA=(C-D) (E)	316.82	228.43	250.45	285.12	396.13	460.52	462.38	659.98
Depreciation (F)	60.84	87.93	109.64	115.66	107.66	101.84	141.60	169.99
EBIT= (E-F) (G)	255.98	140.50	140.81	169.46	288.47	358.68	320.78	489.99
Interest (H)	0.00	0.00	-3.19	-31.93	-14.75	0.00	-51.32	-33.65
EBT=(G-H) (I)	255.98	140.50	137.62	137.53	273.72	358.68	269.46	456.35
Taxes (J)	-5.83	-7.40	-7.14	-10.83	-32.75	-13.20	-21.33	-36.12
NPAT	250.15	133.10	130.48	126.70	240.97	345.48	248.13	420.23

Total other operating expenses (D)	367.51	451.55	466.87	536.79	531.62	598.58	754.82	880.24
Depreciation (F)	60.84	87.93	109.64	115.66	107.66	101.84	141.60	169.99
Total other expenses (B)	0.00	0.00	0.00	-4.93	-1.98	0.22	2.08	-16.81
Total Operating Expenses	428.35	539.48	576.51	647.52	637.30	700.64	898.50	1033.42

Total other operating expenses (D)	367.51	451.55	466.87	536.79	531.62	598.58	754.82	880.24
Depreciation (F)	60.84	87.93	109.64	115.66	107.66	101.84	141.60	169.99
Interest (H)	0.00	0.00	3.19	31.93	14.75	0.00	51.32	33.64
Opening stock	0.00	0.00	0.00	0.00	4.93	6.90	6.68	4.60

Total Expenses	428.35	539.48	579.70	684.38	658.96	707.32	954.42	1088.47
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APPENDIX - 2

Fishtail Hospital & Research Center Pvt. Ltd. Comparative Balance Sheet

(In Rs.'0000)

Fiscal Year	2058/59	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66
Particular								
<u>Capital and liabilities</u>								
Capital and reserve								
Share capital(Paid up capital)	700.00	991.00	1,610.25	1,610.25	1,610.25	1,610.25	2,790.00	4,613.00
Share premium	0.00	0.00	0.00	0.00	0.00	0.00	575.00	0.00
Reserve and surplus	482.93	547.61	182.33	312.72	575.61	888.67	473.44	910.69
Shareholder's Equity	1,182.93	1,538.61	1,792.58	1,922.97	2,185.86	2,498.92	3,838.44	5,523.69
Term loan	0.00	0.00	647.41	240.00	0.00	0.00	458.33	360.82
Grand total	1,182.93	1,538.61	2,439.99	2,162.97	2,185.86	2,498.92	4,296.77	5,884.51
Assets								
Fixed Assets	1,153.40	1,296.47	2,187.64	2,160.63	2,121.78	2,410.97	4,251.11	4,704.76
Current Assets								
Cash and Bank	170.15	268.83	227.71	17.29	78.23	103.62	75.02	965.30
Advance/deposit/Receivables	60.40	18.18	15.47	18.76	17.05	16.58	16.84	21.50
Sundry Debtors	0.20	20.59	47.31	9.19	15.32	33.76	50.36	311.00
Closing Stock	0.00	0.00	0.00	4.93	6.91	6.68	4.60	21.41
Total Current Assets (a)	230.75	307.60	290.49	50.17	117.51	160.64	146.82	1,319.21
less: Current liabilities								
Sundry creditors	1.90	58.30	7.34	5.70	35.55	49.54	67.45	87.89
Sundry Payable	223.01	36.50	31.05	38.02	0.00	0.00	0.00	0.00
T.D.S. payable	0.00	0.90	1.42	2.53	1.74	9.75	4.56	20.89
Provident Fund Payable	0.00	15.46	33.98	0.00	0.00	0.00	0.00	0.00
VAT Payable	0.00	0.00	0.00	4.71	0.00	0.00	0.00	0.00
Doctors Payables	0.00	0.00	0.00	0.00	18.96	13.20	21.40	18.75
Excise Duties payable	0.00	0.00	0.00	0.00	0.00	2.73	10.03	13.97
Total Current Liabilities (b)	224.91	111.16	73.79	50.96	56.25	75.22	103.44	141.50
Net Current Assets (a-b)	5.84	196.44	216.70	(0.79)	61.26	85.42	43.38	1,177.71
other assets								
Preliminary expenses	1.85	3.91	3.47	3.13	2.82	2.53	2.28	2.05
Construction expenses	21.84	41.79	32.18	0.00	0.00	0.00	0.00	0.00
	23.69	45.70	35.65	3.13	2.82	2.53	2.28	2.05
Grand Total	1,182.93	1,538.61	2,439.99	2,162.97	2,185.86	2,498.92	4,296.77	5,884.52

Total Assets (FA+CA+OA) or Total Liabilities(LTD+CL+SE)	1,407.84	1,649.77	2,513.78	2,213.92	2,242.10	2,554.66	4,400.21	6,026.02
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Total Debt (LTD + CL+ Other CL)	224.91	111.16	721.20	290.96	56.25	75.22	561.77	502.32
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APPENDIX - 3

Fishtail Hospital & Research Center Pvt. Ltd.

Schedule of Change in Working Capital

(in Rs.'0000)

Fiscal Year	2058/59	2059/60	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66
Particular								
Current Assets								
Cash and Bank	170.15	268.83	227.71	17.29	78.23	103.62	75.02	965.30
Advance/deposit/Receivables	60.40	18.18	15.47	18.76	17.05	16.58	16.84	21.50
Sundry Debtors	0.20	20.59	47.31	9.19	15.32	33.76	50.36	331.24
Closing Stock	0.00	0.00	0.00	4.93	6.91	6.68	4.60	21.41
Total Current Assets (a)	230.75	307.60	290.49	50.17	117.51	160.64	146.82	1,339.45
less: Current liabilities								
Sundry creditors	1.90	58.30	7.34	5.70	35.55	49.54	67.45	87.89
Sundry Payable	223.01	36.50	31.05	38.02	0.00	0.00	0.00	0.00
T.D.S. payable	0.00	0.90	1.42	2.53	1.74	9.75	4.56	20.89
Provident Fund Payable	0.00	15.46	33.98	0.00	0.00	0.00	0.00	0.00
VAT Payable	0.00	0.00	0.00	4.71	0.00	0.00	0.00	0.00
Doctors Payables	0.00	0.00	0.00	0.00	18.96	13.20	21.40	18.75
Excise Duties payable	0.00	0.00	0.00	0.00	0.00	2.73	10.03	13.97
Total Current Liabilities (b)	224.91	111.16	73.79	50.96	56.25	75.22	103.44	141.50
Net Working Capital (a-b)	5.84	196.44	216.70	(0.79)	61.26	85.42	43.38	1,177.71
Net Increase or Decrease in WC	(193.50)	190.60	20.26	(217.49)	62.05	24.16	(42.04)	1134.33

APPENDIX - 4

Trend Value of Total Revenue

Year (X)	Revenue (in Rs.'0000) (Y)	$t=2(X-2061.5)$	$t Y$	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/\sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=953.30+57.77 t$
2058/59	684.33	-7	-4790.31	49	953.30	57.77	548.93
2059/60	679.98	-5	-3399.90	25	953.30	57.77	664.46
2060/61	717.32	-3	-2151.96	9	953.30	57.77	780.00
2061/62	816.98	-1	-816.98	1	953.30	57.77	895.53
2062/63	925.77	1	925.77	1	953.30	57.77	1011.07
2063/64	1059.32	3	3177.96	9	953.30	57.77	1126.60
2064/65	1219.28	5	6096.40	25	953.30	57.77	1242.13
2065/66	1523.41	7	10663.87	49	953.30	57.77	1357.67
n = 8	7626.39	0	9704.85	168	—	—	—

APPENDIX – 5
Trend Value of Total Expenditure

Year (X)	Expenditure (in Rs.'0000) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=705.14+41.98t$
2058/59	428.35	-7	-2998.45	49	705.14	41.98	411.26
2059/60	539.48	-5	-2697.40	25	705.14	41.98	495.22
2060/61	579.70	-3	-1739.10	9	705.14	41.98	579.19
2061/62	684.38	-1	-684.38	1	705.14	41.98	663.15
2062/63	658.96	1	658.96	1	705.14	41.98	747.12
2063/64	707.32	3	2121.96	9	705.14	41.98	831.08
2064/65	954.42	5	4772.10	25	705.14	41.98	915.05
2065/66	1088.47	7	7619.29	49	705.14	41.98	999.01
n = 8	5641.08	0	7052.98	168	—	—	—

APPENDIX – 6
Trend Value of Current Ratio

Year (X)	Current Ratio (in Times) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e = 2.96 + 0.28 t$
2058/59	1.03	-7	-7.21	49	2.96	0.28	1.00
2059/60	2.77	-5	-13.85	25	2.96	0.28	1.56
2060/61	3.94	-3	-11.82	9	2.96	0.28	2.12
2061/62	0.98	-1	-0.98	1	2.96	0.28	2.68
2062/63	2.09	1	2.09	1	2.96	0.28	3.24
2063/64	2.14	3	6.42	9	2.96	0.28	3.80
2064/65	1.42	5	7.10	25	2.96	0.28	4.36
2065/66	9.32	7	66.29	49	2.96	0.28	4.92
n = 8	23.69	0	46.99	168	—	—	—

APPENDIX – 7
Trend Value of Net Working Capital Ratio

Year (X)	Net Working Capital Ratio (in Times) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=0.0594+0.0039 t$
2058/59	0.0041	-7	-0.0287	49	0.0594	0.0039	0.0318
2059/60	0.1191	-5	-0.5955	25	0.0594	0.0039	0.0397
2060/61	0.0862	-3	-0.2586	9	0.0594	0.0039	0.0475
2061/62	-0.0004	-1	0.0004	1	0.0594	0.0039	0.0554
2062/63	0.0273	1	0.0273	1	0.0594	0.0039	0.0633
2063/64	0.0334	3	0.1002	9	0.0594	0.0039	0.0712
2064/65	0.0099	5	0.0495	25	0.0594	0.0039	0.0791
2065/66	0.1954	7	1.3678	49	0.0594	0.0039	0.0870
n = 8	0.4750	0	0.6824	168	—	—	—

APPENDIX – 8

Trend Value of Days Cash on Hand Ratio

Year (X)	Days Cash on Hand Ratio (in Days) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e = 105 + 10t$
2058/59	119	-7	-833	49	105	10	35
2059/60	136	-5	-680	25	105	10	55
2060/61	22	-3	-66	9	105	10	75
2061/62	12	-1	-12	1	105	10	95
2062/63	54	1	54	1	105	10	115
2063/64	63	3	189	9	105	10	135
2064/65	36	5	180	25	105	10	155
2065/66	400	7	2800	49	105	10	175
n = 8	842	0	1632	168	—	—	—

APPENDIX – 9

Trend Value of Fixed Assets Turnover Ratio

Year (X)	Fixed Assets Turnover Ratio (times) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e = 0.4138 - 0.0160t$
2058/59	0.5933	-7	-4.1531	49	0.4138	-0.0160	0.5255
2059/60	0.5245	-5	-2.6225	25	0.4138	-0.0160	0.4936
2060/61	0.3279	-3	-0.9837	9	0.4138	-0.0160	0.4617
2061/62	0.3781	-1	-0.3781	1	0.4138	-0.0160	0.4297
2062/63	0.4363	1	0.4363	1	0.4138	-0.0160	0.3978
2063/64	0.4394	3	1.3182	9	0.4138	-0.0160	0.3659
2064/65	0.2868	5	1.4340	25	0.4138	-0.0160	0.3339
2065/66	0.3238	7	2.2666	49	0.4138	-0.0160	0.3020
n = 8	3.3101	0	-2.6823	168	—	—	—

APPENDIX – 10

Trend Value of Total Assets Turnover Ratio

Year (X)	Total Assets Turnover Ratio (times) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e = 0.3638 - 0.0112t$
2058/59	0.4861	-7	-3.4027	49	0.3638	-0.0112	0.4420
2059/60	0.4122	-5	-2.0610	25	0.3638	-0.0112	0.4196
2060/61	0.2854	-3	-0.8562	9	0.3638	-0.0112	0.3973
2061/62	0.3690	-1	-0.3690	1	0.3638	-0.0112	0.3749
2062/63	0.4129	1	0.4129	1	0.3638	-0.0112	0.3526
2063/64	0.4147	3	1.2441	9	0.3638	-0.0112	0.3303
2064/65	0.2771	5	1.3855	25	0.3638	-0.0112	0.3079
2065/66	0.2528	7	1.7696	49	0.3638	-0.0112	0.2856
n = 8	2.9102	0	-1.8768	168	—	—	—

APPENDIX – 11
Trend Value of Debt Ratio

Year (X)	Debt Ratio (%) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=11.39-0.6620t$
2058/59	15.98	-7	-111.86	49	11.39	-0.6620	16.02
2059/60	6.74	-5	-33.70	25	11.39	-0.6620	14.70
2060/61	28.69	-3	-86.07	9	11.39	-0.6620	13.37
2061/62	13.14	-1	-13.14	1	11.39	-0.6620	12.05
2062/63	2.51	1	2.51	1	11.39	-0.6620	10.73
2063/64	2.94	3	8.82	9	11.39	-0.6620	9.40
2064/65	12.77	5	63.85	25	11.39	-0.6620	8.08
2065/66	8.34	7	58.38	49	11.39	-0.6620	6.76
n = 8	91.11	0	-111.21	168	—	—	—

APPENDIX – 12
Trend Value of Debt to Equity Ratio

Year (X)	Debt to Equity Ratio (%) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=13.86-0.9313t$
2058/59	19.01	-7	-133.07	49	13.86	-0.9319	20.39
2059/60	7.22	-5	-36.10	25	13.86	-0.9319	18.52
2060/61	40.23	-3	-120.69	9	13.86	-0.9319	16.66
2061/62	15.13	-1	-15.13	1	13.86	-0.9319	14.79
2062/63	2.57	1	2.57	1	13.86	-0.9319	12.93
2063/64	3.01	3	9.03	9	13.86	-0.9319	11.07
2064/65	14.64	5	73.20	25	13.86	-0.9319	9.20
2065/66	9.09	7	63.63	49	13.86	-0.9319	7.34
n = 8	110.90	0	-156.56	168	—	—	—

APPENDIX – 13
Trend Value of Cash-flow to Debt Ratio

Year (X)	Cashflow to Debt Ratio (times) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(\sum Y/n)$	$b_1=(\sum tY/ \sum t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=2.51+0.0983t$
2058/59	1.41	-7	-9.87	49	2.51	0.0983	1.82
2059/60	2.05	-5	-10.25	25	2.51	0.0983	2.02
2060/61	0.35	-3	-1.05	9	2.51	0.0983	2.22
2061/62	0.98	-1	-0.98	1	2.51	0.0983	2.41
2062/63	7.04	1	7.04	1	2.51	0.0983	2.61
2063/64	6.12	3	18.36	9	2.51	0.0983	2.81
2064/65	0.82	5	4.10	25	2.51	0.0983	3.00
2065/66	1.31	7	9.17	49	2.51	0.0983	3.20
n = 8	20.08	0	16.52	168	—	—	—

APPENDIX – 14

Trend Value of Net Profit Margin

Year (X)	Net Profit Margin (%) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(Y/n)$	$b_1=(tY/t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=24.55-0.0304t$
2058/59	36.55	-7	-255.85	49	24.5488	-0.0304	24.76
2059/60	19.57	-5	-97.85	25	24.5488	-0.0304	24.70
2060/61	18.19	-3	-54.57	9	24.5488	-0.0304	24.64
2061/62	15.51	-1	-15.51	1	24.5488	-0.0304	24.58
2062/63	26.03	1	26.03	1	24.5488	-0.0304	24.52
2063/64	32.61	3	97.83	9	24.5488	-0.0304	24.46
2064/65	20.35	5	101.75	25	24.5488	-0.0304	24.40
2065/66	27.58	7	193.06	49	24.5488	-0.0304	24.34
n = 8	196.39	0	-5.11	168	—	—	—

APPENDIX – 15

Trend Value of Return on Assets

Year (X)	Return on Assets (%) (Y)	$t = 2(X - 2061.5)$	tY	t^2	$b_0=(Y/n)$	$b_1=(tY/t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e = 9.2038 - 0.3436 t$
2058/59	17.77	-7	-124.39	49	9.2038	-0.3436	11.61
2059/60	8.07	-5	-40.35	25	9.2038	-0.3436	10.92
2060/61	5.19	-3	-15.57	9	9.2038	-0.3436	10.23
2061/62	5.72	-1	-5.72	1	9.2038	-0.3436	9.55
2062/63	10.75	1	10.75	1	9.2038	-0.3436	8.86
2063/64	13.52	3	40.56	9	9.2038	-0.3436	8.17
2064/65	5.64	5	28.20	25	9.2038	-0.3436	7.49
2065/66	6.97	7	48.79	49	9.2038	-0.3436	6.80
n = 8	73.63	0	-57.73	168	—	—	—

APPENDIX – 16

Trend Value of Return on Equity

Year (X)	Return on Equity (%) (Y)	$t=2(X-2061.5)$	tY	t^2	$b_0=(Y/n)$	$b_1=(tY/t^2)$	Trend Values $Y_e = b_0 + b_1 t$ $Y_e=10.3238 - 0.4860 t$
2058/59	21.15	-7	-148.05	49	10.3238	-0.4860	13.73
2059/60	8.65	-5	-43.25	25	10.3238	-0.4860	12.75
2060/61	7.28	-3	-21.84	9	10.3238	-0.4860	11.78
2061/62	6.59	-1	-6.59	1	10.3238	-0.4860	10.81
2062/63	11.02	1	11.02	1	10.3238	-0.4860	9.84
2063/64	13.83	3	41.49	9	10.3238	-0.4860	8.87
2064/65	6.46	5	32.30	25	10.3238	-0.4860	7.89
2065/66	7.61	7	53.27	49	10.3238	-0.4860	6.92
n = 8	82.59	0	-81.65	168	—	—	—

APPENDIX - 17
Coefficient of Correlation between Current Assets and Current Liabilities of FHRC Pvt. Ltd.

(in Rs. '0000)

Fiscal Year (n)	Current Assets (X)	Current Liabilities (Y)	$x = (X - \bar{X})$ $\bar{X} = 327.90$	$y = (Y - \bar{Y})$ $\bar{Y} = 104.66$	xy	x^2	y^2
2058/59	230.75	224.91	-97.15	120.26	-11682.62	9437.88	14461.27
2059/60	307.60	111.16	-20.30	6.51	-132.04	412.04	42.32
2060/61	290.49	73.79	-37.41	-30.87	1154.62	1399.41	952.65
2061/62	50.17	50.96	-277.73	-53.70	14912.65	77133.26	2883.15
2062/63	117.51	56.25	-210.39	-48.41	10183.87	44263.43	2343.04
2063/64	160.64	75.22	-167.26	-29.44	4923.26	27975.49	866.42
2064/65	146.82	103.44	-181.08	-1.22	220.01	32789.51	1.48
2065/66	1319.21	141.51	991.31	36.86	36534.78	982697.99	1358.29
8	2623.19	837.24	0	0	56114.52	1176109.02	22908.61

Calculation of Mean

$$\bar{X} = \frac{X}{n} = \frac{2623.19}{8} = 327.90$$

$$\bar{Y} = \frac{Y}{n} = \frac{837.24}{8} = 104.66$$

Calculation Of Correlation Coefficient (r) between CA & CL

$$\begin{aligned} &= \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} \\ &= \frac{56114.52}{\sqrt{1176109.02} \sqrt{22908.61}} \\ &= \frac{56114.52}{1084.49 \times 151.36} \\ &= \frac{56114.52}{164148.41} \\ &= \mathbf{0.3419} \end{aligned}$$

Calculation of Probable Error (P.E.) Of Correlation Coefficient

$$\begin{aligned} \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-(0.3419)^2}{\sqrt{8}} = 0.6745 \times \frac{0.88313}{2.8284} = 0.2106 \end{aligned}$$

APPENDIX – 18
Coefficient of Correlation between Operating Expenses and
Revenue of FHRC Pvt. Ltd.

(in Rs.'0000)

Fiscal Year	Operating Expenses	Revenue	$x = (X - \bar{X})$	$y = (Y - \bar{Y})$	xy	x^2	y^2
(n)	(X)	(Y)	$\bar{X} = 682.72$	$\bar{Y} = 953.30$			
2058/59	428.35	684.33	-254.37	-268.97	68416.24	64701.55	72344.19
2059/60	539.48	679.98	-143.24	-273.32	39148.81	20516.27	74703.14
2060/61	576.51	717.32	-106.21	-235.98	25062.12	11279.50	55685.97
2061/62	647.52	816.98	-35.19	-136.32	4797.74	1238.69	18582.80
2062/63	637.30	925.77	-45.42	-27.53	1250.22	2062.52	757.83
2063/64	700.64	1059.32	17.93	106.02	1900.43	321.31	11240.51
2064/65	898.50	1219.28	215.79	265.98	57394.76	46563.17	70746.03
2065/66	1033.42	1523.41	350.71	570.11	199940.87	122994.00	325026.84
8	5461.72	7626.39	0	0	397911.19	269677.00	629087.30

Calculation of Mean

$$\bar{X} = \frac{X}{n} = \frac{5461.72}{8} = 682.72$$

$$\bar{Y} = \frac{Y}{n} = \frac{7626.39}{8} = 953.30$$

Calculation of Correlation Coefficient (r) between Operating Expenses & Revenue.

$$\begin{aligned}
 &= \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} \\
 &= \frac{397911.19}{\sqrt{269677.00} \sqrt{629087.30}} \\
 &= \frac{397911.19}{519.30 \times 793.15} \\
 &= \frac{397911.19}{411886.36} \\
 &= \mathbf{0.9661}
 \end{aligned}$$

Calculation of Probable Error (P. E.) of Correlation Coefficient

$$\begin{aligned}
 \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{n}} \\
 &= 0.6745 \times \frac{1-(0.9661)^2}{\sqrt{8}} = \frac{0.04495}{2.8284} = 0.0159
 \end{aligned}$$

Since, $r > 6 \text{ P.E.}$ (i.e. $0.9661 > 0.0954$), so the correlation coefficient is significant.