

## **SYNOPSIS**

### **"AN ANALYSIS OF FINANCIAL PERFORMANCE OF SELECTED POWER GENERATING COMPANIES IN GUJARAT- AN IN -DEPTH STUDY OF PRE AND POST REFORM PERIOD."**

The synopsis of the thesis to be submitted to The Maharaja Sayajirao University of Baroda for the Degree of DOCTOR OF PHILOSOPHY in Accounting and Financial Management Department of Faculty of Commerce.

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## **RELEVANCE OF THE PRESENT WORK**

Electricity is one of the most vital infrastructure inputs for economic development in a country and it is the fulcrum on which rests the future pace of growth and development. The demand for electricity in India is enormous and is growing rapidly. The vast electricity market offers one of the highest growth opportunities for private developers.

At the time of Independence, electricity seemed to be more of an urban phenomenon. There was greater emphasis on providing power to the industrial, commercial and domestic segments, which were based mostly in urban areas and semi, urban and rural area were not given due weightage. The Electricity (Supply) Act, 1948 sought to rectify this imbalance by insisting that the SEBs should discharge their social obligations and extend the benefits of electricity to semi-urban and rural areas in the most efficient and economical manner. The Act also stipulated that the area of development must transcend the geographical limits of a municipality. In fulfilment of the obligations envisioned in the Electricity (Supply) Act, 1948, the State Governments had been extending the reach of electricity to ensure a more balanced development. Supply of power at heavily subsidised rates to various categories of consumers like agricultural and domestic was conceived for socio-economic reasons. The Industrial Policy Resolution of 1956 reserved the power sector for public investments in India. Thus, for many decades, the Government had assumed the role of developer, promoter and regulator of electricity.

Since independence, development of the electricity sector was primarily the responsibility of the Government, except for a few “licensees” like Tata Electric Company (TEC), Bombay Suburban Electricity Supply Company (BSES), Calcutta

Electricity Supply Company (CESE), and Ahmadabad Electricity Company (AEC). In its quest for increasing the availability of electricity, the country has adopted a blend of thermal, hydel and nuclear sources and non-conventional sources like solar, wind and mini micro hydro energy. The all India installed capacity of generating stations was 76,753 MW as on 31<sup>st</sup> March 1994. In spite of significant growth in power generation, the shortage continued mainly due to the growth in demand, for outstripping the growth in generation. The energy shortage ranged from 7 per cent to 11 per cent and peak shortage from 16 per cent to 21 per cent during the year, even though the overall generation in the country had increased by over 8 percent in the recent years.

India's electricity needs are enormous. This is evident from the fact that the prospective plan for the power sector indicated incremental capacity requirement of 1,42,000 MW during 1992-2007 to meet the growth in demand. This implied the creation of an incremental capacity of nearly 10,000 to 12,000 MW per year. The acute shortages in power supply in the country, both energy and peak, was a matter of grave concern since the economic development of the country depended on the availability of continuous and reliable power. The broad strategy of the Government was to deal with both supply side and demand side management to meet these shortages. On the supply side, however, the emphasis was primarily on the addition of generation capacity.

The abundant energy resources of the country were not being put to optimum use, primarily due to financial constraints. In the context of paucity of resources with the Central and State Governments, as well as PSUs and SEBs, the need was to bridge the gap between the rapidly growing demand and supply for electricity. A policy to encourage greater investments by private enterprises for

capacity addition in power generation and distribution was formulated by the Government in 1991. Mobilization of resources for achieving self-sufficiency in the electricity sector assumed high priority; therefore, the role of the private sector had become very important.

### **NEW ENVIRONMENT FOR PRIVATE SECTOR INVESTMENTS.**

Private sector participation in the power sector was not a novel concept in the Indian context. The private sector was a participant in India's electricity sector for over a hundred years. Even during the period of public sector domination, some private sector companies operated as 'licensees' of the State Electricity Boards and were rated amongst the best in the country in terms of performance and profitability. Such power companies had been operating their own power generation with a total capacity of around 3,000 MW and distribution systems to around ten million consumers, before the Government decided to encourage more private sector investments.

In response to the new economic realities of liberalisation and globalisation, the Government formulated a policy in 1991 to encourage greater participation by privately owned enterprises in electricity generation, with the aim of bringing in additional resources for the capacity addition programme in the electricity sector. The Indian Electricity Act, 1910 and Electricity (Supply) Act, 1948, were amended to bring about a new legal, administrative and financial environment for private enterprise in the electricity sector. The new policy permitted 100 per cent foreign owned companies to set up power projects based on any fuel such as coal, lignite, gas, hydel, liquid fuels, wind or solar and repatriate profits without any export obligations. An attractive two-part tariff structure was provided which allowed

recovery of full fixed charges with up to 16 per cent return on equity at specified plant load/availability factor. This was further modified from time to time to make the policy more attractive and flexible. A five year-tax holiday was also given.

Since electricity is a subject listed in the Concurrent List of the Indian Constitution, the State Governments have played a vital role in promoting electricity projects. It was significant that the policy to encourage private participation in the development of the electricity sector was welcomed by all the State Governments. The response of private companies, both Indian and foreign, to the policy on private power development was very encouraging.

### **Response from the Private Sector.**

There was considerable euphoria in the Ministry as power generation was thrown open for private investment and more than 250 Memorandum of Understandings (MoUs) were signed for setting up power projects for a capacity addition of around 75,000 MW. All these proposals were at various stages of processing and obtaining clearances, including those from the FIPB. Fifty-two of these offers were from foreign private firms, including from NRIs as also joint venture proposals. A number of workshops, seminars and conferences were organised in the country to attract prospective investors for the investment opportunities in the sector.

The progress of these proposals was regularly reviewed and after further scrutiny and withdrawals, the number has come down to 194 by 31<sup>st</sup> March 1996. During 1997-98, the Ministry was monitoring about 125 private power projects of 67,200 MW capacity, all of which required techno-economic clearance (TEC) of the CEA. These included 95 proposals on the MoU/Letter of Intent (LoI) etc., route and 30

proposals on the competitive bidding route. In addition, there were several MoU/LoI projects, costing up to Rs. 100 crore and projects awarded through competitive bidding, cost up to Rs. 1,000 crores, which were being set up with the approval of the State Governments and which did not require

A number of research studies have been undertaken by many researchers on power industry highlighting the different aspect of finance management. The studies carried by them in inventory management, finance function in relation to material management, the quality of trade credit, credit control and company finance, management decision for cash and marketable securities, financing working capital, working capital policy, inflation and working capital, working capital management and availability of bank credit, trade credit and their significance, cash planning and management etc.

An analysis of financial performance of selected power generating company in Gujarat. An in depth study of pre and post reform period has not been carried out so far in detail, though numbers of small studies have been carried out in this regard.

Further, it is believed that an indepth study of pre and post reform period on an analysis of financial performance of selected power generating company in Gujarat has also not been carried out. Therefore, Gujarat Electricity Board and Gujarat State Electricity Corporation Ltd., Vadodara have been selected as sample units for the purpose of present study.

The present study of pre and post reform period has been carried out in order to make an effort to understand relevance in An analysis of financial performance of selected power generating company in Gujarat.

It could enable management to understand the improvement of financial performance after reform of power sector policy. It will be first of its kind, significant and pioneering research on an analysis of financial performance of selected power generating company in Gujarat and in depth study of pre and post reform period. in Gujarat. Thus, the proposed work will surely contribute to the field of performance of power sector companies in particular and the Accounting and Financial Management in general.

### **OBJECTIVES OF THE STUDY:**

The present study proposed to examine the policy prevailing in an analysis of financial performance of selected power generating company in Gujarat and in depth study of pre and post reform period in the state of Gujarat

The specific objectives of the study are as follows:

1. To measure the growth of selected Power Generating Company in Gujarat.
2. To undertake the performance evaluation of selected Power Generating Companies in Gujarat.
3. To examine the financial problems faced by the Power Generation Companies.
4. To evaluate cost of generation and finance.
5. To examine profitability of Power Generating Companies.
6. To make suggestions for improvement of financial performance.
7. To undertake the performance evaluation of means score of liquidity indicators on the financial performance of power generating company in Gujarat and depth study of pre and post reform selected Power Generating Companies in Gujarat.

8. To undertake the performance evaluation of significant improvement in means score of Leverage indicators on the financial performance of power generating company in Gujarat and depth study of pre and post reform.

### **REVIEW OF RELATED LITERATURE:**

A review work has been done in order to understand the intricate aspects of present study. A good researcher has to keep abreast of the current knowledge about what and how much work has been carried out in the field related to the current study and where more exploration is required. Such a review has not only been provided a sound rationale for the current study but also helped in defining boundaries for this present study. A proper review of related literature helped, to a great extent, in defining problem, developing a research design and determining the size and scope of further study. Following literatures are selected for the review purpose.

1 Legal history of power industry and various ACTs.

2 Indian power policy and Gujarat state power policy etc.

3. Various reports and orders of GERC, ARR, ANNUAL A/Cs. POWER TARIFF, PPA  
MYT

4 Various magazines viz, Power Line, Infra Line plus, smart utilities, as well as  
Central and State level issues from time to time.

### **SAMPLE OF THE STUDY:**

For the purpose of an indepth study and analysis of various aspects of an analysis of financial performance of selected power generating company in Gujarat, an in depth study of pre and post reform period, GEB and GSECL have been selected which are registered in Gujarat jurisdiction and engaged in generation of power and reform. Apart from the Government of Gujarat under the provisions of the Gujarat Electricity Industry (reorganization and regulation) Act 2003. The availability of data from 1995-2005 and 2005-2015 has also been considered while selecting the power generating company. The power generating companies for the purpose of the present study are Gujarat Electricity Board and Gujarat State Electricity Corporation Ltd, Vadodara.

### **METHODS OF ANALYSIS IN THE PRESENT STUDY:**

The present study is of an analysis of financial performance of selected power generating company in Gujarat. An in depth study of pre and post reform period. The approach adopted is basically analytical and descriptive in nature. On the basis of the review and objectives of this study, it is decided to use the ratio analysis technique to analyze and interpret the financial performance of selected power generating company in Gujarat and in depth study of pre and post reform period. The power generating companies for the purpose of the present study are as Gujarat Electricity Board and Gujarat State Electricity Corporation Ltd, Vadodara in the state of Gujarat. Statistical and Mathematical tools like average, standard deviation, coefficient of variation, coefficient of correlation and hypotheses testing have also been applied.

## **CHAPTER FORMULATION OF THE STUDY:**

I have divided my study into seven chapters with specific sub-heads for the better presentation. The financial ratio analysis and statistical tools have been adopted in the preparation of the thesis. In the preparation of the present thesis, I have fully drawn upon all the available relevant published articles, research works, reports and books.

The preliminary page shall contain the contents, acknowledgement, list of tables, maps graphs, charts etc. This study is presented in the following seven chapters based on original text.

### **CHAPTER-1 : OVERVIEW OF ELECTRICITY SECTOR.**

I have divided this chapter into various sections in order to have better analysis and interpretation of financial data. These sections are as follows:

1.1	History
1.2	Installed Capacity
1.3	Generation of Electricity
1.4	Captive Power
1.5	Demand
1.6	Growth of Electricity Consumption in India & Per-Capital consumption.
1.7	Rural Electrification
1.8	Renovation and Modernisation
1.9	Replacement of old Thermal Power Plants
1.10	Renewable energy in India (1) Wind, (2) Solar & (3) Biomass Power & Gasification and Bagasse Cogeneration)
1.11	Geothermal Energy
1.12	Tidal Power
1.13	Nuclear Power
1.14	Electricity, Transmission and Distribution
1.15	Regulation and Administration
1.16	Trading
1.17	Government-owned Power Companies
1.18	Problems with India's Power Sector

## **CHAPTER -2 : REVIEW OF LITERATURE**

I have divided this chapter into seven sections in order to have better analysis and interpretation of financial data. These sections are as follows:

2.1	Introduction
2.2	What is Review of Literature
2.3	Source of Literature
2.4	Types of Literature
2.5	Why required Literature Review
2.6	Objective of Literature
2.7	Planning for Literature review

## **CHAPTER -3 : RESEARCH METHODOLOGY**

I have divided this chapter into twelve sections in order to have better analysis and interpretation of financial data. These sections are as follows:

3.1	Introduction
3.2	The research gaps identified from the study
3.3	Objective of Study
3.4	Time period of the Study
3.5	Scope of the Study
3.6	Sources of data collection
3.7	Selection of samples
3.8	Nature of the Study
3.9	Tools and techniques of analysis of research methodology
3.10	Significance of the Study
3.11	Hypothesis of the Study
3.12	Limitation of the Study

#### **CHAPTER-4 : ANALYSIS OF THE TECHNICAL PERFORMANCE POWER PLANTS OF THE GENERATING COMPANY.**

I have divided this chapter into seven sections in order to have better analysis and interpretation of financial data. These sections are as follows:

4.1	Overview of Gujarat Electricity Board
4.2	Installed Generation Capacity of India, Gujarat State & GSECL
4.3	Generation of Power before and after unbundling of GEB/GSECL
4.4	Analysis of performance parameters
4.5	New projects before and after unbundling of GEB/GSECL
4.6	Renovation and Modernization of Power Plants

#### **CHAPTER-5 : ANALYSIS OF THE FINANCIAL PERFORMANCE OF THE GUJARAT STATE ELECTRICITY CORPORATION.**

I have divided this chapter into seven sections in order to have better analysis and interpretation of financial data. These sections are as follows:

5.1	Overview of Financial Management
5.2	Analysis of Capital Expenditure (CAPEX) on Power Projects
5.3	Analysis of Operating Expenditure (OPEX) of Power Plants
5.4	Working Capital Management
5.5	Profitability of pre and post reform period
5.6	Balance sheet of pre and post reform period
5.7	Analysis of Financial Parameters

## **CHAPTER - 6 : COMMERCIAL & REGULATORY ASPECTS**

I have divided this chapter into ten sections in order to have better analysis and interpretation of financial data. These sections are as follows:

6.1	Formation of State Electricity Regulatory Commission
6.2	Laws Relating to Electricity in India.
6.3	Determination of Tariff of Power Generating Companies by Regulator.(i.e. GERC)
6.4	Multi Year Tariff Regulation.
6.5	Power Purchase Agreements
6.6	Power Trading
6.7	Overview of Carbon Emission Trading
6.8	CDM Project of Gujarat State Electricity Corporation Limited (GSECL)
6.9	Risk Management of Power Generating Companies.

## **CHAPTER - 7 : CONCLUSION AND SUGGESTIONS**

This chapter gives the summary of the entire findings and highlights of the significant conclusions. It concludes with major findings, conclusions and suggestions as to an analysis of financial performance of selected power generating company in Gujarat and an in depth study of pre and post reform period.

At the end of the thesis, bibliography and appendix would be there.