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STRATEGIC INITIATIVES BY NTPC LTD

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Abstract

Power sector is placed as a concurrent subject in Indian Constitution. To Augment and Compliment the development achieved by SEB's (State Electricity Board). NTPC was incorporated in 1975 to fulfil the nations huge energy need to achieve transition from developing economy to a vibrant and strong developed economy. This transitional journey needed rapid augmentation of energy infrastructure both in Generation as well as transmission sector. In the last 45 years of its existence, NTPC has surpassed and excelled the objectives, setting some global benchmarks in the process. Today it is one of the largest IPP (Independent Power Producer) and ventured into related fields like Coal Mining, Hydropower and RE sectors. The present study is an attempt to analyse the strategic initiatives adopted by NTPC limited to grow into a 64862MW MAHARATNA PSU giant starting from scratch in 1975. Attempts will be also made to identify the weak and strong internal factors, and how it negotiated various external factors to its advantage.

Introduction

NTPC is the largest power generating company of India which in spite of being a PSU, maintained its domineering presence in Indian Power Sector. This very aspect makes it interesting to study and analyse the strategic initiatives made by NTPC which helped to maintain it the leadership position it enjoys in the sector. NTPC was incorporated to augment the bulk generation capacity rapidly to aid the economic development of INDIA in 1975. It was an epoch making event as it ushered in transition of POWER from State sector dominance to Central sector dominance. Accordingly NTPC Strategic thinking was mostly aligned with RAPID CAPACITY EXPANSION.

Long term strategies are made based on the premises of Vision & Mission statements. The NTPC's Vision & Mission statement is as follows-

"TO BE THE WORLD'S LEADING POWER COMPANY, ENERGIZING INDIA'S GROWTH."

The vision statement reflects its aspiration to evolve as a major power company with Global presence and reckoning. Till now it has partly fulfilled its vision by evolving as the leading national power company with some international presence.

"PROVIDE RELIABLE POWER AND RELATED SOLUTIONS IN AN ECONOMICAL, EFFICIENT AND ENVIRONMENT FRIENDLY MANNER, DRIVEN BY INNOVATION AND AGILITY."

It is evident that NTPC is well active in its mission and has successfully provided the nation with solutions to tide over its power crisis by setting up SUPER THERMAL POWER STATIONS in record time, introducing new technologies and evolve as an innovative and environment friendly company.

The strategic initiatives of the companies depend mainly on the Quadrant of FOUR 'C' s

1) Competence
2) Capacity
3) Competition
4) Condition

Accordingly in order to decide on the right strategic direction knowledge of right competence and competition is a pre-requisite.

COMPETENCE

Core Competence :

As per Hamel and Prahalad the central building block of Corporate Strategy is core competence (Ref Core competence of the corporation HBR 1990), and has defined it as the combination of individual technologies and product skills that underlie a companies product lines.

Core Competence is special or unique internal competence which equips a company with clear competitive advantage over its competitors. Core Competence is build over the interwoven resources, technology and skill or synergy which provides the distinctive value in its product or services for its customers.

NTPC has demonstrated strong core competence in O&M of Super and Mega thermal Coal fired thermal plants, to augment the electricity generation capacity of the nation by bulk capacity adding. It has also demonstrated its proven capacity in Project supervision & management by Completing majority of projects On Time and few ones Before Time.

Distinctive Competence :

Thompson and Strickland defined distinctive competences as the unique capability that helps in capitalising upon a particular opportunity, the competitive edge it may give a firm in the marketplace.

NTPC has Distinctive Competence in venturing into new and evolving energy related product and service sectors, by virtue of which it is demonstrating strategic intent to secure its presence in the entire ENERGY CHAIN by organic or inorganic means.

NTPC has ventured in Hydro, Solar, wind, Nuclear energy generation, Developed and started coal mining. It has ventured into waste to energy , Electrical Bus operation, EV charging business and looking for entry into Large GWHr Storage battery plants.

Strategic Competence: Strategic Competence coexists with, or supports, Core competence and Distinctive Competence. Strategic Competence is the Competence level required to formulate, implement and produce results with a particular strategy to outwit competitors.

NTPC has amply displayed its Strategic Competences in handling the competition and threats posed by advent of IPP & UMPP's by studying the proposals and devising the tariff with a long term perspective. It has also successfully faced the lower and erratic demand faced by its base load large plants due

to rise in availability of solar power. It has made its operations flexible enough to meet to system demand and economic despatches via optimal bundling of solar and thermal generation. It is also thinking of introducing storage facilities to make the solar power available on a round the clock basis.

Threshold Competence: Strictly speaking NTPC is having above threshold competence level in whichever area it is operating. But in future it needs to ramp up its R&D facilities to retain its competitive edge in the field.

Capacity

NTPC is the largest IPP of India with 65810 MW vis a vis 375322MW of installed capacity of power generation in India. It commands 17.53% of national Capacity.

With 23 coal based power projects of capacity 46,410MW and 9 joint venture coal based power plants of 7814MW NTPC is the leading power generator of the nation.

Besides this it has 7 gas based power plant totalling capacity of 4017MW and JV capacity of 2494MW.

NTPC has operational hydroelectric project 0f 808MW and JV/subsidiary hydel capacity of 2949MW.

RE (solar, wind) projects of 1088MW operational capacity is owned by NTPC while projects of total capacity of 2284MW are under various phases of implementation.

NTPC is having a large pool of well trained professional workforce of 40000+ people.

NTPC'S standalone employee count is around 19000 @ 0.2 person per MW while the group count including JV & subsidiaries amounts to 40K.

Financially NTPC commands a good credit rating of CRISIL AAA/Stable backed by sovereign guarantee. Its having a bank loan facility of 92000 crore INR with ample reserves and surpluses to fund its ongoing expansion projects.

For international finances and loans it is having sovereign guarantee of GOI.

Competition

Post independence power sector has evolved mainly under government (Union & state) regulated and developed, by a policy of tariff based pricing and PPA (Power purchase agreement) protection. This era continued till 1991, after that private players were allowed to set up Power generating and transmission companies as IPP (Independent Power Producers).
Currently like any other thermal electricity generators NTPC is facing stiff competition from RE specially solar power companies. As per policy the RE producers are given priority and given their fluctuating nature of generations the thermal plants need to adjust by steep ramping up and down their output which is contrary to their design as base load plants. Also the price of RE power specially the Solar on is getting cheaper day by day and posing stiff competition to traditional thermal power generators.

NTPC in order to tide over this challenge has strategically embarked upon rapid capacity addition of RE coupled with technically modifying its running thermal stations for more flexible operations by design modification of its combustion process. It is also proposing the Bundling

Concept wherein it can provide Solar power and thermal power as a package to customers.

In the face of the challenge from RE generators and national policy on it NTPC has decided not to invest in new project of thermal nature and design its future expansions mostly based on RE (Renewables) like solar , wind & hydro power.

Condition

Strategic moves are designed keeping in socio-political and economical conditions of the geography and market in which a company is operating.

The genesis of NTPC lies in the huge gap demand supply gap of electricity sector in the decade of seventies and subsequent years. Accordingly primary goal of NTPC was to rapidly add on generating capacity by erecting and commissioning a bunch of Super Thermal Power Plants of 1000MW capacity and above with large units of 500MW and more. To achieve this NTPC developed project construction and management as its one of core competence by benchmarking with the world leaders. It developed highly skilled professionals by training and exposure to national and international Peer groups. After the commissioning of these Plants it shifted its focus to Operation and Maintenance of these plants, deployment of super skilled manpower and training them through international power majors like CEGB, NEI etc it developed Operation and Maintenance as Core Competence. In the initial phase the thrust was on quanta of generation as nation was power starved any generation irrespective of its efficiency, price etc was consumed and thus PLF was the only yardstick of performance.

With the launching of ABT the thrust shifted from Plant Load Factor (PLF) to ABT (Availability Based Tariff). NTPC yet again demonstrated its skills to learn and adapt the changes and record superb availabilities for its plants.

The introduction of UMPP (Ultra Mega Power Plant) and opening of power sector to private entities shifted the focus on pricing and efficiency.

NTPC with diversification to areas like Hydro and Renewables, and with the start of Power Trading and Exchange based power transaction has shifted its focus on ECR i.e per unit power price.

The Environmental condition of energy market in INDIA has changed from a regulated tariff based energy deficient system to energy surplus, trading of energy through exchanges and options for the consumers to select the service provider.

Accordingly NTPC has realigned its strategic focus for cost reduction, efficiency, low emission, and Green Energy Proactively. It is closely monitoring its sustainability parameters and making itself ready for the changes of the coming Decade.

Strategic Profile Of NTPC

The strategic advantage profile of NTPC is as follows-

a) **Market Share** :NTPC is the largest power generating company of Nation with a capacity of 16.78% of total national capacity and 20.96% of total power generation of India. Hence market share wise it is the dominant number one entity in generation field.

b) **Government owned entity** : NTPC was fully owned Government Entity till October 2004 when it floated its's IPO (Initial Public Offer) to offer its share for public. As on 31.03.2020 the government shareholding stood at 51.02%. Government is still the majority and largest shareholder of NTPC. Being under the ownership of Central. This helps in NTPC getting involved in governments policy changes or implementation of strategic changes as envisioned by Government, thereby adjusting NTPC's own strategic actions to suit the changes.

c) **Strong Commercial Position :**NTPC has executed TPA (Tripartite Agreement) with 24 states with central government as party to realise the old dues 0f around 37000 core by way of securitisation and opening of escrow account in the year 2003. Its current realisation of billing is nearly 100% for almost last decade. Hence undoubtedly it is having a strong commercial position than 2 decades ago.

d) **Excellent Credit rating :** NTPC enjoys a credit rating of FAAA which enables it to avail cheap loans from markets that too in excess of its capital expansion requirements. It has successfully restructured its loan portfolio to cheaper one and saving interest loading considerably.

e) **Strong O&M (Operation & Maintenance)** : NTPC has developed **Core Competence** in O&M of thermal stations which is at par with global standards. It has achieved this unique position by continuously benchmarking with global peers, training and up skilling its workforce and adopting latest

quality systems. It has achieved high level of effectiveness of workforce to achieve a Man MW ratio of 0.2 person per MW capacity.

f) **Thrust on IT & DSS (Decision Support System) :**In the last decade NTPC has focussed intensely to reap the benefits of IT & DSS. DSS has helped the management to decide upon the optimal generation level and to decide upon the level of raw material inventory (Coal) it needs to maintain. It has helped to achieve the flexibility in adjusting the generation level as per the demand complying to the provisions of ABT, thereby gaining UI (unscheduled interchange) benefits. It has also helped it in pricing for Power Trading and exporting surplus power through NVNN.

g) **Long term power purchase agreements (PPA) :** NTPC has a very secure business model in which the major generating stations output is covered by long term PPA with the States. This has resulted in a secure investment model for NTPC.

h) **Regulated Tariff system :** Electricity is a regulated market in India, the tariff being decided by CERC for central generating station. The tariff takes care of all expenditures in the costing as per some Normative level. NTPC being a technically efficient company fulfilling all norms and even outperforming in certain areas and parameters has made it a COST PLUS tariff for it.

i) **Scanning of Business environment**: NTPC is having a dedicated group for business environment scanning, its impact on business and suggested Risk Mitigation measures. It arranges regular structured meeting with functional directors and group heads of the function to decide upon the future course of corrective measures.

j) **Rich Human Resources** : NTPC attracts the best of the talent of the nation due to its attractive growth option and better pay and other benefits. It provides stability of career and post retirement benefits also. It is rich with super skilled and highly specialised manpower by continuous development through training.

The strategic weak points of NTPC are

a) **Research &Development** :Though the research wing NETRA of NTPC has done some good work for thermal power generation, its contribution to venture into new fields like SOLAR, WIND, GEO THERMAL, STORAGE AND BATTERY, ETC are very minimal.

b) **Limited Strategic Options :**Being a PSU (Public Sector Unit) it has very limited strategic options as it has to function within the strategic guidelines of Power Ministry. For each strategic move it needs to convince the Govt Of India about its objective and intent.

c) **High Legal and Social Compliance requirement** : Being a PSU NTPC is subjected to high level of audits and compliances. It has to follow a very structured work pattern and decision making is highly centralised and mostly collective through committees. Hence decision making process is a bit lengthy and time consuming. It has other statutory compliances like RTI (Right to Information Act), Corporate Social Responsibility and has to comply the reservation norms etc which makes it difficult to execute the business tactics, the business policy and overall strategy execution as it is subject to public observation opinions and criticisms. It also has to defend its action in parliament and provide inputs for responding to questions of members.

Strategic Moves By NTPC

The Strategic Initiatives by NTPC are

a) **Evolving as a Energy Major :**In order to make evolve as global energy player NTPC felt the need of its presence in the entire **value chain** of electricity generation. Hence it expanded its business activities from **Thermal Power Generation** to **Coal Mining and Distribution business and Power Trading.** It adopted both Forward Integration and Backward Integration. This strategic move helped NTPC to gain better control of its Supply chain and better understanding of the commercials

of electricity business. The objective of this move is to reduce the ECR (Energy Charge Rate) per unit. This move has enabled it to expand beyond national boundary to set up projects offshore.

b) **Inorganic Growth and Synergy through Mergers and Acquisition :**NTPC has recently bought out 100% equity in NEEPCO & SJVN. It is trying hard to make a foray into Hydel sector and be a dominant player like it is in Thermal and pose a competitor to NHPC. But inspite of its best of efforts in last decade it has only succeeded in commissioning KOLDAM Project (4x200MW). The portfolio of the acquired company compliments the NTPC portfolio which is unduly heavy in thermal generating assets. Also inorganic growth by takeover etc is the easiest way to rapidly expand and make foray into related areas. Earlier also NTPC has taken over many ailing SEB plants like TALCHER, TANDA and formed JV with SAIL for SAIL power plants of Durgapur & Rourkela.

c) **Focus on Renewable and Green Energy** : NTPC has changed its strategic focus from Thermal to Renewable and Green Energy. It has stopped investing in new green field thermal projects and has focussed mainly on Renewable energy sources like Hydro , solar and wind. This way it tries to balance its portfolio mix and minimise the effect of stringent measures on thermal plants. But till date Thermal plants continue to remain its cash cow.

d) **Focus on sustainable growth** : NTPC believes in sustainable growth of business. It abides all the international protocol and its emission values far exceed the compliance requirement. For older plants it is carrying out Retrofit & R&M of ESP and adding Sox & NOx control devices. Both SCR & SNCR type of devices are being used.

e) **Thrust on IT enabled systems:** NTPC has gone paperless and all its transaction is being done through its portal PRADIP. It has increased speed of approvals, transparency and easy access to critical documents at the time of need. PRADIP has enabled most of its functional executives to work from home During the PANDEMIC COVID-19 without affecting their output or productivity. It is employing Drones and AI (Artificial intelligence) for remote supervision of its ongoing projects on 24x7 basis.

f) **R&D for enhancing efficiency and emission control :** NTPC has involved itself and invested in R&D for enhancing efficiency and reducing emission level and ultimately achieving saving in fuel and reducing ECR (Energy Charge Rate) . It is a part of the consortium engaged in construction of one of the world's best efficient plant as a technology demonstration exercise. NTPC, BHEL and IGCAR is setting up an AUSC (Advanced Ultra Super Critical) plant of 800 MW unit (Coal based) having a efficiency of 46% in Indian ambient condition and 50% in European ambient condition. On successful operation of the the plant would make it one of the most efficient plant in the world with 5% increase than normal supercritical unit and 20% reduction in emission.

Conclusion

From the above deliberation it is evident that NTPC being a learning organisationhas managed to navigate through the challenges posed to it from time to time. Till now the power sector is operating in a regulated tariff regime, but the sector itself is moving towards more privatisation and entry of private players. Sooner or later tariff system is going to give way to competitive bidding and free trading of power. By continuous benchmarking and adopting good practices it has successfully converted its workforce change friendly. Over the years resistance to change has came down completely and its easy to make business changes in professional way.

Though still a PSU and working in a regulated tariff regime it has made ample preparation for transition into a competitive power trading market. It has clearly adopted expansion mode of strategy and has secured business in abroad such as Bangladesh and Sri Lanka.

Keeping in mind the global environmental concern for CO2 emission, NTPC has drawn up a target of having 30% portfolio of renewable energy sources by 2030. The target capacity of NTPC being 130 GW it comes around 32 GW of renewables. Hence this is a major strategic initiative to have a predominant Green Energy expansion. NTPC has started to make organisational structural change required to achieve this.

NTPC has grown over the years into a large organisation but it has shown ability to adjust and reposition itself in the face of adversity. It adjusted itself and absorbed the COVID-19 impact so nicely that the impact to its top line and bottom line i.e. Gross Revenue and Net Profit was minimal.

Strategy implementation is as important as strategic planning. NTPC has successfully navigated many challenges and stood its dominant position in Indian Power Sector by virtue of successful implementation of the Strategic policies and plan.

The only point of concern is high ECR (Energy charge rate) for some of its new thermal plant ans subsequent low demand and requisition of energy from these plants. NTPC needs to do a thorough cost analysis and identify the cost drivers to reduce the energy cost of this plants.

So far NTPC has operated mainly on a developing economy with huge energy shortage, but lead indicators point that the capacity addition in power sector has far exceeded the demand as demand growth is less than anticipated. This has resulted in a energy surplus market and hence lesser demand and PLF of the operating plants. For its future planning NTPC needs to resort and consider the scenario building for a ENERGY SURPLUS economy.

To conclude NTPC has become a model to study how Strategic Planning and Implementation can be successful in a Government run organisation.

Bibliography and References

1) Exploring Corporate Strategy - By Gerry Johnson & Kevan Scholes (Eastern Economy Edition)
2) Business Policy and Corporate Strategy- By Lawrence R. Jauch & William F. Gluek (McGraw-Hill International Editions)
3) Blue Ocean strategy- By W. Chan Kim & Renee Mauborgne Harvard Business Review Press
4) The Core Competence Of the Corporation - By Hamel G & C K Prahalad, Harvard Business Review May-June 1990.
5) Strategic Management: Concepts and cases- By Thompson AA & A J Strickland, Texas Business Publications -1994
6) www.ntpc.co.in
7) https://powermin.gov.in