

Post Implementation Analysis of E-Urja Project (ERP) at GSECL: The Senior Management Perspectives

–Tanushri Banerjee¹ and Rajendrasinh Parmar²

ABSTRACT

As mandated by Electricity Act 2003, Gujarat Electricity Board (GEB) reorganized in April 2005 into initially six Companies i.e. one Generation Company, one Transmission Company and four Distribution Companies. A new Corporation named Gujarat Urja Vikas Nigam Ltd. (GUVNL) was then incorporated to carry out the residual functions of the erstwhile GEB. The power generation activities i.e. the power plants were transferred to GSECL (Gujarat State Electricity Corporation Limited).

In order to meet the complexities in the power sector and meet customer expectations, there was a need for standardization of business processes across the 7 companies. GSECL has extensively used Information Technology to support its business processes amongst which “E-Urja” project, an end to end IT project (ERP- Enterprise Resource Planning) has been implemented across the company i.e. eight power stations & corporate office. Enterprise Resource Planning (ERP) is the broad set of activities supported by multiple module application to manage business. ERP applications are a collection of readymade software modules for different business processes that can be customized according to organizational needs. In a nutshell, there must be a value proposition, return on investment and total cost of ownership. It’s about aligning people process and technology so that they master the raging waters of the high volume transactional system. At GSECL, the ERP covers operations, maintenance, material management, finance, fuel, Purchase, Scrap and Projects across the company. The entire gamut of the operation revolved around better availability of quality power and efficient management of energy while maintaining the eco-friendliness all along.

¹ Associate Professor, Pandit Deendayal Petroleum University (PDP), Gandhinagar, Gujarat, India. Email: tanushri.banerjee@spm.pdpu.ac.in

² Deputy Engineer IT, Gujarat State Electricity Corporation Limited (GSECL), Baroda, Gujarat, India.

This paper has tried to capture the technology investment decisions made by Gujarat Government's Gujarat Electricity Board company in implementing the Power sector reforms in Gujarat, specifically at GSECL and hence successfully restructuring the organization with the support of Information Technology. It captures the challenging journey from 2005 of transitioning all employees at GSECL, a Public sector Power Generation organization at Vadodara and all the power station locations in Gujarat, India to the E-Urja platform (an ERP solution). The organization had at that time constituted of majority of employees working out of a paper based office or utmost a standalone computer application. The management had expectations of the complete organization transitioning to the new ERP solution (E-Urja project) in 2 years time, which included the senior executives to support the technical team and in parallel work through people management issues of resistance to change to ensure a timely smooth transition. Being the first state in India to unbundle after enactment of the Electricity Act 2003, Information Technology played as a significant support system in their unique unbundling model and thereafter to allow fastest unbundling via the ERP (e-Urja) project. Via the paper we have captured using an unstructured questionnaire the experience shared by the senior executives at GSECL who were deeply involved in the transition process of E-Urja. The paper provides a synopsis of senior management's qualitative perceptions regarding E-Urja advantages and challenges as they stand tall post a successful difficult technology implementation and hence organizational change.

Keywords: GSECL, Power sector, Gujarat, ERP, e-Urja

GSECL (GUJARAT STATE ELECTRICITY CORPORATION LIMITED) - THE ORGANIZATION

Mr. M. M. Bhatt, DGM HR at GSECL (Gujarat State Electricity Corporation Limited) on 17, September 2012 sat at the corporate office in Vadodara narrating with pride the challenging journey from 2005 of facilitating the mammoth task of transitioning all employees at GSECL, a Public sector Power Generation organization at Vadodara and all the power plant locations in Gujarat, India to the e-Urja platform (an ERP solution). The organization had at that time constituted of majority of employees working out of a paper based office or utmost a standalone computer application. E-Urja transition was the first of its kind among state owned power utilities

in India which was coupled with pre-existing low morale of employees who were being subjected to organizational change. Hence, the investment decision in choosing an appropriate technology platform (ERP) and hence managing the employee transition process had to be innovatively thought through and executed for ensuring smooth changeover. Mr. Bhatt knew that the top management had made the technology investment decision and now had expectations of measuring a positive impact which was possible by a planned complete organization transitioning to the new ERP solution (e-Urja project) in 2 years' time. He and all of senior management (Head of respective departments) were required to support the e-Urja team and in parallel work through people management issues of resistance to change to ensure a timely smooth transition.

Gujarat Electricity Board (GEB) came into being on separation of the erstwhile Mumbai State in the 1960s. The GEB until 2005 was responsible for generation, transmission and distribution of electrical energy in the whole state of Gujarat.

In support of Government's endeavor for bringing sense of responsibility and responsiveness to the public and as part of the reform process, the Government of Gujarat has unbundled the various functions of GEB. As a result of this unbundling, Gujarat State Electricity Corporation Limited (GSECL) has taken up the responsibility of electricity generation. Electricity Transmission has been entrusted to the already existing company - GETCO. Distribution network in the state has been split up among four distribution companies, which cater to the northern, central, southern, and western parts of the state respectively. All these companies have been structured as subsidiaries of a holding company, s Urja Vikas Nigam Limited (GUVNL). GUVNL is also the single bulk buyer in the state as well as the bulk supplier to distribution companies.

The Gujarat State Electricity Corporation Limited was incorporated in the year 1993 by the erstwhile Gujarat Electricity Board (GEB). As an objective to initiate the process of restructuring in the power sector in the State of Gujarat, the Government of Gujarat has also given the status of Independent Power Producer (IPP) to GSECL with approval to undertake new power projects. The Company commenced its commercial operation in the year 1998. Initially, the Company was operating 2 nos. of 210 MW Thermal Power Stations each and 2 Gas based Power Stations till 2005.

Pursuant to the enactment of the Electricity Act, 2003 and the Gujarat Electricity Industry (Reorganization and Regulation) Act, 2003, the Government of Gujarat has issued various Notifications, Government Resolutions and Transfer Schemes for vesting of the assets and liabilities

of the erstwhile GEB to the Government of Gujarat and then to reconstitute the same into initially six Companies i.e. one Generation Company, one Transmission Company and four Distribution Companies. A new Corporation named Gujarat Urja Vikas Nigam Ltd. (GUVNL) was then incorporated in the year 2004 to carry out the residual functions of the erstwhile GEB.

As a part of the reform process, the erstwhile GEB was unbundled and pursuant to the transfer scheme issued by the Government of Gujarat, the power generation activities i.e. the power plants have been transferred to GSECL.

Subsequently, the Company GSECL has also added the generating capacity as stated below:-

- 374 MW Gas based Power Plant at Utran.
- 75 MW Lignite based Power Plant at KLTPS
- 10 MW Wind Farm in Bhuj(kutch) district
- 1 MW Solar Power Plant at Gandhinagar and 1 MW Canal top Solar Power Plant in Chandrasan, Tal. Kadi, Dist. Ahmedabad.

GSECL now has power capacity comprising coal, gas, oil, lignite, hydro and wind power. In addition to Gas Based Power Plants, GSECL has also installed wind farm and also commissioned solar based Power Plant. In order to ensure compliance with the environmental issues, follow-up actions for energy conservation through energy audit is done. The power stations are regularly maintained along with renovation and modernization of the old Power Stations, thereby ensuring their sustained operation at efficient levels.

Electricity in India initiated under the British Rule in 1897. This was followed by the creation of State Electricity Boards in 1948. The first phase of reforms in the early 1990s focused on Power Generation. Second phase of reforms led to the creation of the Electricity Regulatory Commissions in 1998. A comprehensive roadmap for reforming the power sector as a whole was created by the enactment of the Electricity Act in 2003.

Gujarat Electricity Board (GEB) which was set up under the Electricity Supply Act in 1948 was promoted by the Gujarat government. It had a vertically established monopoly in the generation, transmission and distribution of electricity in the Gujarat region. As time progressed, mounting losses became a cause for concern. Lack of structured planning and execution resulted in low employee morale and lack of customer focus.

After GEB restructured into seven corporate entities, there was a realization and implementation of a continuous reform process to focus

on the below:

- Smooth and sustainable operation of the Companies
- Customer Focus – better services and quality power
- Rural Electrification
- Efficiency in Operations
- Lower Cost of Generation with higher PLF (Plant Load Factor)
- Lower Transmission and Distribution Losses
- Optimum use of resources and manpower
- Information Technology supported systems was one of the means to address the goals.

The new structure had proposed a Supervisory role for the corporate office with specific accountabilities for operational efficiencies at the Power Station levels. The micro level structures for the Generation stations had largely been untouched. The Generation Company is headed by the Managing Director.

The direct reports of the Managing Director and the respective departments were as given below:

- Executive Director(Gen)
- Head – Generation
- Head – Projects & Planning
- Head – Fuel Management
- Head – Finance and Accounts
- Head- HR&A.
- Head- Company affairs & CSR
- The objective of this paper

Gujarat being the first state in India to unbundle after enactment of the Electricity Act 2003, the objective of this paper is to capture the technology investment decisions made by Gujarat Government's Gujarat Electricity Board company in implementing the Power sector reforms in Gujarat, specifically at GSECL and hence successfully restructuring the organization with the support of Information Technology. It captures the challenging journey from 2005 of transitioning all employees at GSECL, a Public sector Power Generation organization at Vadodara and all the sub-station locations in Gujarat India to the E-Urja platform (an ERP solution).

TCS, with its rich experience in both the Energy and Utilities Space and Oracle Apps technology, was the e-Urja implementation partner. TCS has immensely contributed towards conceptualization, rollout, training and change management of the e-Urja project, and the first of its kind among state owned power utilities in India.

THE BUSINESS PROBLEM

The unbundling of the Gujarat Electricity Board (GEB) has started yielding results in terms of operational efficiency, improved performance and profitability. The opening of power sector to private entrepreneurs brought in stiff competition and hence GUVNL and its subsidiaries had as a next step to adopt and invest in technology systems that brought in decision making capability to their desktops.

There was a requirement of the ERP system to integrate and provide information from each one of the above companies. This included entire gamut of activities related to Power production, Materials Management, Maintenance, Customer Billing and Services, Project Management, Finance, Human Resources, Power Trading and Network Analysis.

The senior management at GSECL realized that in order to meet their objectives and cope up with the challenges in the rapidly changing environment, there was a need to have a flexible Business and an IT enabling architecture that would allow GSECL and its powerstations to adapt itself to changing dynamics.

At that time, the organization constituted of majority of employees working out of a paper based office or utmost a standalone computer application.

Hypothesis

- Senior management at GSECL made technology investment decision to support the change management process
- Senior management at GSECL ensured productive technology investment by managing planned employee transition

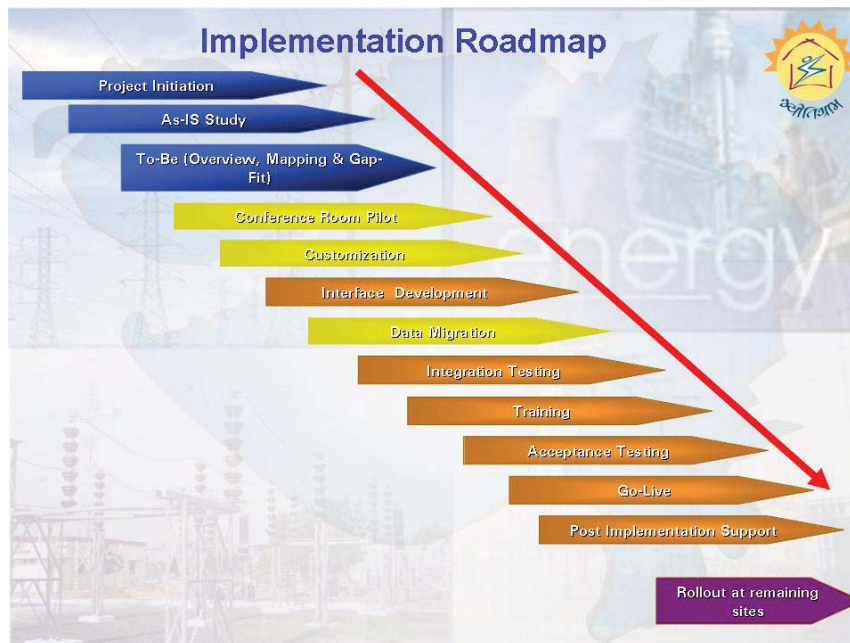
The employees who constituted mainly engineers, technical staff or clerical staff had for several years worked out of paper based files which resided in their individual offices. Any communication that needed to be shared was discussed over the telephone/ referring circulars and then hardcopies were sent to the concerned individuals. Some sections had stand-alone computer applications that were used within small groups of individuals who worked on common projects within the same office location. For e-Urja Team, initiating the transition to a completely computer based shared application for all employees in the organization, training them for faster adoption, dealing with the resistance to change from the employees and accurately transferring all employee data from

the legacy system to the new ERP system (HR module) was a humungous and difficult task.

Head of each department ensured that their department as part of the transition to the e-Urja platform completed the following for their employees:

- There would be a Central Repository of Employee Data and a unique Employee number assigned to each employees irrespective of location.
- Employee Data would be automatically available at the new location when employee was transferred
- Approvals of all Leave, Loans, Advances, Claims and Re-imbursements would happen online through the system.
- Increments, Loans, Transfers, Leaves, Overtime processes would be processed and interfaced with Salary.

The diagram below indicates the plan of the transition process as approved by the senior management. The “As is” were the existing practices in 2005. The “To be” is where the organization needed to be after the unbundling process where the e-Urja project would play a significant role.



E-Urja the Project

Project scope: In order to manage the complexities of the power sector and improve business processes, the e-Urja project was planned and implemented at GSECL. It is an IT enabled ERP based end to end IT solution for the organization.

What is ERP?

“a business strategy and set of industry-domain-specific applications that build customer and shareholder communities value network system by enabling and optimizing enterprise and inter-enterprise collaborative operational and financial processes”(Source: Gartner’s Research Note SPA-12-0420)

Enterprise Resource Planning (ERP) is the broad set of activities supported by multiple module application to manage business. ERP applications are a collection of readymade software modules for different business processes that can be customized according to organizational needs.

Why Implement an ERP?

- To support business goals
- Integrated, on-line, secure, self-service processes for business
- Eliminate costly mainframe/fragmented technologies
- Improved Integration of Systems and Processes
- Lower Costs
- Empower Employees
- Enable Partners, Customers and Suppliers

In a nutshell, there must be a value proposition, return on investment and total cost of ownership. It’s about aligning people process and technology so that they master the raging waters of the high volume transactional system.

The specific data points regarding the scale of the “e-Urja” project included touching 50,000 employees across GUVNL (Gujarat Urja Vikas Nigam Limited) and 97.7 Lakh customers, 45000 suppliers spread across 1500 locations with a total budget of 225 crores in 5 years. The e-Urja solution would be end-to-end solution for each of the 7 companies and TCS was their implementation partner. The ERP implementation model ensured best business practices, real time access to data integrated and stable system that was scalable and upgradable. It would consolidate

the following functional areas: Financial Management, HR and Payroll, Material procurement and Inventory Management, Asset management, Fuel management, Project management etc etc at GSECL.

A strong maintenance and support system was established to provide a smooth transition and build confidence amongst employees.

The e- Urja transition process by e-Urja Team and the communication strategy at GSECL (as approved by top management):

1. All employees across the generation company, GSECL, i.e. approximately 8500 were given individual access to e-Urja System after appropriate computer & e-Urja module training.
2. The first set of training included basic computer skill training to get everyone in the organization to the required level of computer knowledge. This was followed by the training on the ERP modules.
3. The method adopted for implementation was “TRAIN THE TRAINER”, where the Process champions Level 1 were trained who further trained champions across the locations. Trainers and Champions were created for sensitizing organization on the unbundling process. Direct message was sent from the Chairman & Managing Director to each and every employee. “Padkar Saptah”, educating all employees week was celebrated. Regular and structured meeting with Union / Associations on outstanding issues were conducted.
4. Training plan was worked out very carefully not to intimidate employees. There were assigned Process champions as part of the change management process. L1 champions would be the Power station functional officers who would be the primary contact for TCS. There would be Level 0 and Level 1 champions. Level 0 would know the process and support end users, akin to a helpdesk. There would also be Nodal officers one at every power station.
5. On company INTRANET, where in company wide information i.e. Information Sharing, Communication, Circulars, e-Urja Standard Operating Procedures (SOP)/Manuals was made available to employees across the company.

DATA COLLECTION PROCESS FOR THIS PAPER

For this paper, 10 senior executives at GSECL had been approached using the unstructured questionnaire (page 11) in August 2012 to understand the challenges in each of their departments and the approach that had been adopted by GSECL e-Urja Team for managing the smooth transition of all

employees onto the new ERP system from the legacy system. Respondents were primarily from the corporate office in Vadodara and the GSECL Power station in Gandhinagar.

Responses and Analysis

Analyzing the responses received to the questions asked via the questionnaire, the following can be concluded. From the qualitative responses it can be concluded that both the hypothesis stated above are true:

The change management process during the unbundling of GEB led to decentralization of processes and delegation of power to employees down the line and the power stations. The e-Urja project was designed to allow monitoring of all the power sub-stations from the corporate office to ensure compatibility. This allowed senior management to focus on policy making decisions and Quality management. Each employee has been assigned an Employee number, which acts as the Primary Key for the database. The access to the system is via a personal login.



*Mr. M.M.Bhatt,
DGM HR GSECL*

“Employee motivation came naturally due to curiosity toward e-Urja and the desire to have access to accurate information”

BENEFITS

The advantages of investing and implementing the ERP system as received from the questionnaire response from Head of departments can be categorized into organization, the management as well as for their end consumers:

Organizational benefits include

- Increased asset productivity and reduce operating costs associated with maintenance, procurement, and inventory.

- Proactively manage available resources such as inventory, equipment, and skilled personnel and match them to asset maintenance demand, thus optimizing the availability, reliability, and productivity of assets.
- Streamline procurement functions; reduce lead times for procurement, informed decision making inputs for effective and optimal procurements thereby enabling companies to save significant costs of procurement.
- Optimized management of inventory with reduction in inventory carrying costs.
- Fact-based decisions that decrease operating costs, improve regulatory compliance, enhance safety, and maximize return on investment.
- Efficient Fuel (Coal) Management for Power Generation companies through entire process chain from procurement, receiving to Payments; accurate accounting of coal receipts.
- Improved control over generation costs.

Governance Benefits Include

- Improved control, tracking and visibility for all transactions leading to quicker and more accurate availability of information at the desk
- Online tracking of inventory across the organization leading to improved inventory planning and management.
- Management specific dashboards to monitor progress along with Key Performance Indicators.

Management Advantages Include

- Travel time reduced for senior executives and team members, timely access to integrated information and accuracy of information leading to improved customer service.
- Thorough Employee self-service (ESS) module: claim, advance, leave can be operated by each employee via the e-Urja system and monitored by higher authority.
- Payroll module provides consolidated accurate information. The huge variation of parameters that had existed was resolved. Overtime allowances could be better monitored and controlled for consistency across the organization.
- Motivation – employees started seeing the benefits of the new system. Also since, no alternate option was made available to the em-

ployees meant that all employees had to learn and transition to the e-Urja platform. The continuous availability of the technical help from Level 0 staff made it easy.

- 100% implementation of e-Urja in HR, partial legacy system in parallel, complete transition has been completed. Inclusion of enhancements to map pending HR processes under progress.
- Succession planning is done utilizing the analyzed reports from the e-Urja system by the decision makers.
- It has also provided the required transparency in approval process.
- Manual work has been reduced to a great extent.
- Appraisal process is conducted via the e-Urja system.
- Analysis and Reports of HR are shared with the company heads for them to make decisions.
- Improved Employee satisfaction – Transparency in HR processes, online increment/bonus processing, online processing of leaves/claims/loans, online performance appraisals, online employee training management, time saving, no follow up required for individual claims/advances.

After appropriate training, employees were compelled to use the new system, majority by training and sharing assured advantages. The alternate system was made unavailable hence all employees were compelled to use the new system and learn over a period of time.

Dennis Thomas, Industrial Relation Officer Gandhinagar Thermal Power Station GSECL said that after creating the required awareness of e-Urja amongst the employees, emphasis was laid upon the fact that it would be standardized across the company. The first pilot project was started at Gandhinagar. HR department put every employee data-200 columns per person approximately into the new system and with accuracy linked it to payroll.. Within one month legacy and e-Urja data matched. Manual effort had greatly reduced; workload diminished for the senior management as it was no more necessary to monitor employees personally and individually, as the e-Urja provided the consolidated report.

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