

## **A simplified view of the IT Task Force recommendations for Power Distribution Sector in India**

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### **Introduction**

The Ministry of Power, Govt of India has identified IT as a strategic enabler to improve performance in the power distribution sector. With a view to adopt IT as a strategy to improve commercial and operational performance in power distribution and for its effective implementation, the MoP has set up an IT Task Force, under the chairmanship of Mr Nandan Nilekani, CEO, Infosys Technologies Ltd. The role of the IT Task Force is to establish a model IT plan and a roadmap for the adoption of IT initiatives in the Power Distribution Sector in India. The committee has submitted its report the Ministry. Power Finance Corporation has been identified as the nodal agency for the accreditation and empanelment of IT consultants for developing the framework of IT implementation by the various State electric utilities, under restructured APDRP. This paper provides some insights into the IT Task Force recommendations.

In spite of new generation capacity added in the power sector, demand has far outstripped the supply leading to a widening gap. The primary reason of the widening gap lies in the distribution link in the value chain. The State utilities suffer huge financial losses every year due to power theft and inefficiency in metering, billing and collection. In addition, the distribution system in India is faced with low productivity, frequent interruption and poor quality of supply. Evidently, some fundamental changes are imperative in the working of the power sector to realize the vision of "reliable, affordable and quality power for all by 2012".

### **IT as an enabler of Distribution Reforms**

The role of IT is being envisaged as an enabler to bring about sustainable improvements in the utility operations and making the distribution business viable. However, for the successful implementation of IT initiatives, basic structural reforms and sustainable improvements are required in the State utilities with commercial orientation, transparency in operation and customer focus. The use of IT for enabling the core business operations at the transaction level coupled with robust MIS is therefore considered significant from a strategic perspective. The improvement in the overall quality of data is the first step towards improving the information flow within an organization for an effective decision support system. IT therefore can act as the catalyst by providing an information base essential to the distribution reform processes and practices.

Till now, the approach of the various distribution utilities towards IT implementation has been piecemeal with standalone applications deployed for a limited operational use. IT has been used as a tool to address a specific issue or two at a time and not as a long-term, holistic strategy. Globally, IT is being used to enable operations at a transaction level thus providing advantages like in-built process controls, workflow enabled transactions, single point of data capture and support for timely and strategic decision making. On the other hand, in India, the core operations are still manual and therefore face issues like ad-hoc decision making, poor data quality, long decision making cycles and under utilization of IT investments. Therefore, there is plenty of scope for the adoption of new and improved IT applications in the power distribution sector in India. Creation of a comprehensive IT blueprint or roadmap for the Indian power sector incorporating the global best practices is therefore necessary.

## **Blueprint for IT reforms enablement**

The IT task force has suggested both short term (< 5 years) and long-term (> 5 years) implementation roadmap. For short-term IT interventions, priority should be given to the use of IT in commercial processes and in improving the quality of supply in selected high revenue areas. The key objective of the IT solution should be to minimize human interface in commercial processes to avoid human errors and chances of willful mistakes. The long-term IT initiatives would cover business processes as a whole. For instance, the billing process can be expanded to cover all customer types into a comprehensive customer information system (CIS) and gradually the sophisticated call centre functionality can be added. Service connection and maintenance processes could be systemized and integrated with other core business processes like Asset management, Outage management and Distribution Automation. Supporting business processes like Material management, HR, Finance, Accounts, etc. can also be enabled under this initiative. These initiatives form the backbone for an effective Management Information System (MIS) for decision support and improved decision making.

### **Focus on strategic IT initiatives**

#### Integrated Energy Billing and Accounting System

The importance of two strategic projects from the overall revenue and profit perspective in the power distribution sector cannot be gainsaid. One is the Integrated Energy Billing System for heavy Commercial and Industrial (C&I) consumers and the other is the Energy Accounting System. The objective of the Integrated Billing System is to integrate meter reading, billing, payment and collection for C&I consumers to eliminate tampering and manipulation, thus improving revenue collection, as C&I consumers contribute to almost 70% revenue. The objective of the Energy Accounting System is to calculate losses at 11/.4 kV DT level, 11 kV feeder level and 33 kV feeder level.

#### Management Information System (MIS)

Structured and well thought out MIS practices can help the utilities to move ahead without too much of restructuring and investment of time and money. There is a need for timely IT intervention to develop a robust MIS - for a more focused, accountable and KPI-based monitoring mechanism.

#### Consumer satisfaction

Consumer holds the key to survival in the utility business. As the consumer is now more aware of the global economics, it demands improved service levels and the expectations are high. The IT task force recommends a slew of IT initiatives which result in improvement in reliability and quality of supply, increased productivity, reduced technical and commercial losses and a fundamental change in the work culture to bring about consumer satisfaction. Well-meaning IT systems can revolutionize the way the utilities conduct their business by reducing operating costs, increasing operational efficiency and improving consumer service.

## **Key business processes for IT alignment**

While Information Technology can become the key enabler providing strategic support under the reforms process, it is not the panacea to all problems. IT acts as a catalyst by providing an information infrastructure essential to the reforms process, but it does not substitute the fundamental and structural changes within the organization that are required for implementing the reforms. The IT Task Force has identified the following initiatives in which IT could play a transformational role in the power distribution business:

### Commercial initiatives

- Improved revenue management
- Cost reduction
- Improvement in metering, billing and collection
- Reduced consumption to collection time

### Quality improvement initiatives

- Stable voltage and frequency
- Enhanced customer experience
- Better quality and reliability of supply

### Strategic initiatives

- Planning
- Budgeting
- Monitoring

### Operational initiatives

- Reduction in losses
- Reduction in outages
- Better Load and Outage management
- Consumer complaints monitoring and redressal

## **Integration of business and IT strategy**

Information technology investments and implementation is driven through a structured and comprehensive IT strategy. The IT strategy should be aligned with the business strategy taking into account the changing business needs and emerging technology trends. A synergy should be established between the business needs and the IT strategy to maximize the benefits from IT investments.

Business operations have to be enabled by IT to provide workflow enabled transactions and single point of data capture. This minimizes transaction time, enables built-in process controls, enables audit trail and provides appropriate and reliable information for decision support.

The IT applications should be well-integrated to achieve high level of business process integration. This accelerates business transactions and optimizes sharing of information across business processes leading to better decision-making.

### **Critical Success Factors in IT implementation**

The global IT market for the power distribution sector provides a wide range of technologies and solutions. These solutions address the entire business value chain in power distribution - from setting up distribution network and service connection to distribution load management, delivery of power and customer relationship processes. However, the effective deployment of Information Technology by the distribution companies largely depends upon the following critical success factors:

- Sustained leadership commitment
- Leveraging best practices and realigning the business processes
- Improving responsiveness and aligning to changed processes
- Improving the overall quality of data used for implementing the systems
- Securing commitments and ownership of people to the changes and making them accountable for implementing and operating the new systems
- Providing adequate training and enabling people to enhance their skills
- Promoting data oriented decision making environment

### **Change Management**

The IT Task Force also addresses organizational change management as a key issue in the entire IT roadmap implementation. Any change of this magnitude depends upon the following pillars:

- Identifying internal champions and stakeholders consensus: Changes of this magnitude will need the catalytic power of "Champions" who are both respected and powerful. "Champions" should to be identified amongst the process owners. The key would be to secure commitment and ownership from these champions and encouraging them to secure commitments of ownership from the larger part of the organization.
- Sustained leadership commitment: Leadership has to provide sustained commitment through the entire course of the implementation and change. Commitment has to be shown towards building a high performance organization and adoption of best-of-breed processes.
- Organizational Structure: IT implementation will mandate certain structural changes within the organization as a result of centralization of certain tasks and activities. For example, automated meter reading (AMR) and HT billing can be centralized at the Corporate level. Divisions and subdivisions may only be responsible for meter installation, change in meter, disconnection/connection, and maintenance activities. This will require change in responsibilities and authority and hence change in power equations within the organization.
- Organizational culture: Large scale IT implementations bring about a change in the way the employees work, the way they are evaluated and deliver service to customers. A fundamental change in mindset is required for successful IT implementation.
- MIS: A well-designed and well implemented MIS will give managers the information they need to take good business decisions, but in the end, the decisions will have to be taken by the managers using the data. People at all levels would have access to robust, integrated information that would enable them to provide better service to the consumer but they need to be aligned to use the data for decision making.

Competency building: IT alone cannot improve business performance. A lot of emphasis has to be placed on building competencies and skills as well as shaping mindsets. Processes have to shift to a world-class gear. People should be re-skilled not only for initiating the transition but also for sustaining it.