# A Study of MSEDCL's Effective and Efficient Governance through Employee Mitra Mobile App

Santosh Rajkumar Patani
(BE, MBA, DDM, BJ)
Deputy Executive Engineer, MSEDCL
*Email: santoshpatni@rediffmail.com*
Phone: 9373048729, 7875767702

***Abstract:*** This study is carried out to study the usefulness of the MSEDCL's Employee Mitra Mobile App for employees, to provide effective and efficient working facilities. The Good Governance Policy through Employee Mitra App is analysed. The Electricity Act created an environment of competition through policies like Open Access, franchisee etc. This forced the Distribution Company to provide better Governance through technological advancements. MSEDCL after trifurcation in 2005, continuously providing better facilities by using the technological advancements. Now a new step towards better Governance by using the Employee Mitra Mobile App is introduced. This App also supports the Functional requirements of Advanced Metering Infrastructure (AMI) suggested by the Central Electricity Authority, India.

***Keywords:*** *Advanced Metering Infrastructure, Employee Mitra Mobile App, Technological Advancements in Power Distribution..*

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## I. INTRODUCTION

### 1.1 Introduction to the topic

Maharashtra State Electricity Distribution Company Limited (MSEDCL) is the largest power distribution company in India, providing the electricity to the state of Maharashtra (serving 2.30 crore consumers), except some part of Mumbai.

After trifurcation of MSEB, a separate entity for Power Distribution known as MSEDCL started functioning. The trifurcation was implemented for focusing and improving the Power Distribution activity by reducing the losses and increasing the revenue. Since the beginning, Good Governance and better Consumer services were the First priorities accepted by the MSEDCL. Accordingly, by analyzing the situations, it was decided to improve the services by a. providing strong electrical network, b. improving the facilities to the employees, c. by bringing the smart metering technologies to reduce the consumer complaints. All these activities were supported by the advancements in the technology like, TOD (Time Of the Day) meters, Prepaid meters, On the Spot Billing, Photo Reading, Automatic Meter Reading (AMR), IR and RF meters and Reading through Mobile App.

### 1.2 Rationale:

In today's era the electricity has become the most essential parameter along with the basic needs like food, shelter & residence. Power Distribution Utility provides the most essential service that is required by the society.

The power sector has become vibrant due to many new policies and increasing demands from the consumer for better service. By the introduction of Electricity Act 2003, the consumer came at the Center of the business and the call of the time was advancements in the facilities and services to the consumers.

For all the above it was necessary to shift from all the manual working systems to technologically advanced working systems. MSEDCL guessed it right and brought the technology for Good Governance and facilitations to employees.

This study provides the details about facility provided by M**obile based Application** known as **"Employee Mitra App"** to facilitate the employees in day to day working. This App can be used by all the employees as per their responsibility. The App provides everything for easing the day to day workings of the field engineers and employees.

### 1.3 Functional Requirements of Advanced Metering Infrastructure (AMI) in India:

The Central Electricity Authority is a federal agency looking for the designing of the policies for electricity sector in India. According to the CEA, the main objective of the Advanced Metering Infrastructure AMI is to enable two way communication between smart energy meter and Head End Systems to enable remote reading, monitoring and control of energy meters to serve as repository of record for all raw, validated and edited data.

The AMI system shall help utility to manage their resource and business process efficiently. AMI system

shall support the following minimum functionalities by providing following core components:

a. Smart Meters
b. Communication infrastructure
c. Head End System(HES)
d. Meter Data Management System (MDM)
e. Web application with updated on-line data of consumers etc.
f. **Mobile app:** AMI Implementing Agency (AIA) shall provide a mobile app through which consumer shall be able to log in through android/iOS/Window based mobile app to see information related to his/her energy consumption. App shall also provide platform for implementation of peak load management functionality by providing existing tariff & incentives rates, participation options etc. This mobile app shall be part of complete system and therefore no additional cost shall be payable for upgradation / maintenance separately.

The System should accurately maintain system time synchronization across all devices to ensure accuracy of data. The system should support the interfacing with the future Smart Grid functionalities like outage management system, distribution automation including self-healing system, distribution transformer monitoring units, Electric vehicle, distributed energy resources etc. The communication network shall preferably be able to support multiple applications.

### 1.4 Objectives of the Study

The objectives of the study are as below;

1. To study the MSEDCL **Employee Mitra Mobile App**.
2. To study the willingness of the employees for utilizing the facility of MSEDCL **Employee Mitra Mobile App**.

### 1.5 Hypothesis for the Study

The hypothesis for the study are as under;

1. MSEDCL **Employee Mitra Mobile App** facility will help to provide better facilities to improve the working conditions.

## II. MAHAVITARAN: AT A GLANCE

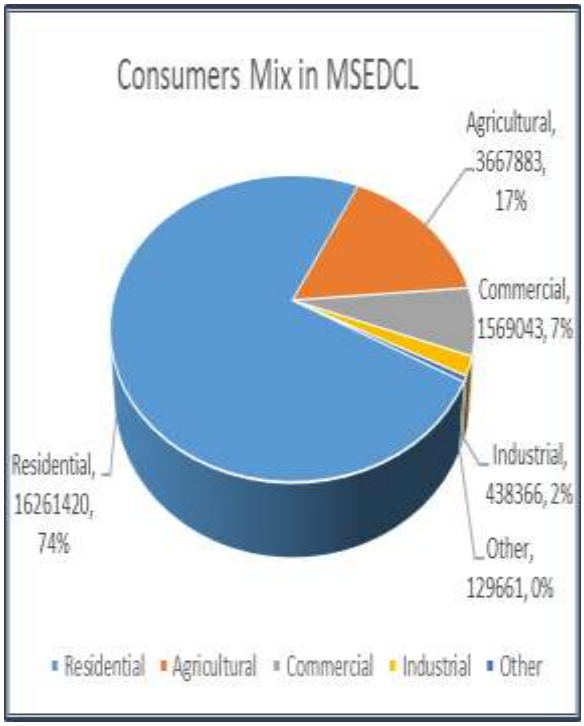
### 2.1 Company Profile

The MSEDCL came in existence after unbundling and trifurcation of the Maharashtra State Electricity Board (MSEB), in June 2005. MSEDCL is serving for the area of 3.08 lakh sq. KM in 41095 villages and 457 towns.

It is having 2,925 nos of Sub stations, 16,950 feeders and 3.42 lakh KM of High Tension line and 6.07 KM of Low Tension line.

The total annual turnover is of Rs. 59,125 crores and the supplying about 94,804 Million Units in a year. The loss level is 14.17%.

Mahavitaran supplies electricity to about 2.30 Crore consumers across the Maharashtra. There are about 1, 62, 61,420 Residential, 36, 67,883 Agricultural, 15, 69,043 Commercial 4, 38,366 Industrial and 1,29,661 other consumers in Mahavitaran.




## III. MAHAVITARAN MOBILE APP

### 3.1 Launching of the Mobile App

MSEDCL launched the Mobile App for the employees on 29th June 2016, by the hands of Hon. Chief Minister and Hon. Energy Minister, in presence of Hon. Energy Secretary, Maharashtra, Hon. Chairman and Managing Director, MSEDCL. The Chief Minister appreciated the initiative which supports the Dream Digital India Mission, Government of India.

### 3.2 Features

#### A. MSEDCL Employee Mitra App

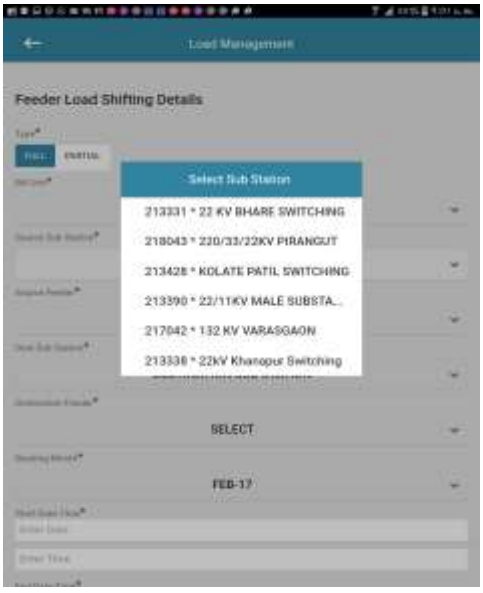
Employee Mitra App exhibits the technological advancements that aim at elevating the working and interfacing efficiencies of Mahavitaran's mammoth workforce.


**1. Capture Geo Coordinates:** This helps in capturing the Geo-coordinates of MSEDCL's assets like offices, sub stations, network, HT consumers etc. These Geo- Coordinates are updated in MSEDCL's ERP system for further utilization.



**2. Outage Management:** This provides the facility to enter the information related to the planned outages. This information will be shared to the consumers who have registered themselves on the MSEDCL consumer App. The information for all the planned outages will be given to the consumers in advance so that they can plan their work accordingly.

**3. Load Management:** Whenever there is shifting of electrical load from one feeder to other for reducing the interruptions or better load management, this feature enables to feed the information instantaneously. This is directly linked with the database in NDM (Network Database Management) system. The information can be regularly updated to generate correct feeder input and correct Energy Audit thereof.




**4. Feeder Meter Reading:** The on duty sub station Operator can upload the hourly feeder readings like KWH reading, Ampere (A), Power Factor (PF) etc. through this feature. The facility for uploading daily one photo is also provided. All the other 23 readings can be uploaded without photo. This will help to identify the load pattern of the feeder and also will be helpful to identify the substation losses. This uploaded readings can be viewed and corrected through the web console by selecting the date and time for the wrong readings.

**5. Disconnection Management:** The list of liable consumers for disconnection due to arrears is available on the concerned employee's login. The information about the payments from the consumers can be uploaded through the mobile app. The consumer will receive a SMS after payment if the data is uploaded on the App. The employee wise daily report will be available on the Web console. This will facilitate to plan the disconnection drives effectively.

**6. Suggestions to CMD:** This feature is provided to give suggestions to CMD and management for improvements in the day to day working**s.**

**7. PD Verification:** This feature is provided to upload the information about the Permanently Disconnected (PD) consumer's site verification. The issue of PD consumers is of very much concern to the MSEDCL as the consumers tend not to pay the energy bills regularly resulting in the Permanent Disconnection of supply and later on the same consumer may apply for another connection in other name at the same premises. This results in loss of MSEDCL's revenue. The same can be avoided by using this feature effectively. The Geo-coordinates of the PD premises can be uploaded along with the information about the site conditions such as; No use, Premises demolished, Not traceable, Using from another Consumer Number, Un authorized use etc. The further action as per Electricity Act 2003 can be initiated accordingly.


**B. New Connection App**

New connection app facilitates timely release of new connections and will also help in real time monitoring and tracking of new connections.

**1. Technical Feasibility:** The technical feasibility for the new connection can be given immediately. If there is requirement of additional infrastructure then the same can be uploaded through this feature. The Geo-coordinates can be captured for the premises where new connection is required and will be linked to the existing database. The remarks about the pending arrears can also be uploaded. This is helpful to avoid the new connection at Permanently Disconnected (PD) premises.

**2. Connection Release:** If the consumer has paid the necessary fees then the after approval the connection can be released. The details about the Energy Meter such as Meter serial No., Make, Code can be fetched through the ERP-SAP system. At the time of release of new connection the date and time will be entered and the Initial Meter Reading and Photo along with the Geo-coordinates will be uploaded. For the area having network problems, offline facility is provided by which the information is stored on the mobile device and uploaded on the server through offline mode.

### C. Meter Reading App

Meter Reading App will ensure correct meter reading of consumers, reduce consumer grievances and will also ensure timely submission of Feeder/DT readings for accurate ratings for energy audit. This is a replacement to the existing photo reading system.

### D. Location Capture App

Location capture App helps to capture Geo-locations of MSEDCL's poles & DTCS. This will help to map the network properly. The feature is useful for future network planning and designing. The information about the assets can be available after completion of the activity.

### 3.3 Basic Requirements for Mobile App

**For using Mahavitaran Mobile App, all you need:**

- A smart phone with Android Operating System (OS 4.0 or above).
- Apple Smart phone with iOS Operating System
- Internet connectivity like GPRS/EDGE/3G/ Wi-Fi/4G etc.

This app can be downloaded by visiting the distribution company's website or from Google Play Store.

### 3.4 Advantages of the Mobile App

Employees will have to register themselves with MSEDCL App for availing the benefit of these features.

- This is helpful for improving the working conditions.
- The Outage Management can be very effective.
- The network management can be effective.
- The Energy Audit can be done properly.
- The loss of revenue can be avoided due to proper verification PD premises.
- The working suggestion can be directly given to the Top Management.
- The recovery drive can be implemented very effectively.
- The employee performance can be judged correctly.
- The Consumer services will be improved.
- The billing program can be implemented effectively.
- The billing complaints will be reduced.
- The new connection can be released immediately.
- The status can be tracked on Real Time Basis.
- The working will become more transparent.

## IV. FINDINGS:

The issue is discussed with about 200 employees from the MSEDCL Pune zone. The employees included Management personals, Field Engineers, Billing personals and the Technicians. From the feedback received the following is observed;

a) The majority of respondents are satisfied about the MSEDCL mobile App.
b) The majority of respondents are somewhat aware about the Mobile App facility and its usefulness.
c) The majority of the respondents agreed that this App will help to improve the daily working.
d) The majority of respondents suggested to provide the mobile handsets to the employees (especially technicians and operators) along with the internet facility to all the employees.
e) According to many respondents, the system should be made more user friendly.
f) According to some respondents, the IT system database capacity should be enhanced for speedy work.
g) Many suggested that proper trainings should be arranged for creating the awareness among the employees.

## V. CONCLUSIONS:

The study reveals that,

- MSEDCL is the first state power utility to launch the Mobile App for effective & efficient working and good Governance .
- MSEDCL Mobile App is a step to promote Digital India Mission.
- MSEDCL is taking positive steps for improving the working conditions and consumer services.
- Majority of the respondents are satisfied about the Mobile App.
- The Mobile App will help to improve MSEDCL's planning and record updation, leading to improved services.
- The awareness about the Mobile App must be increased by arranging special Campaigns

## VI. SUGGESTIONS:

From the study it is suggested that,

- The policy of providing services through Mobile App is very good but proper training should be arranged for the employees, to draw better results.

- The App should be made more user friendly.

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