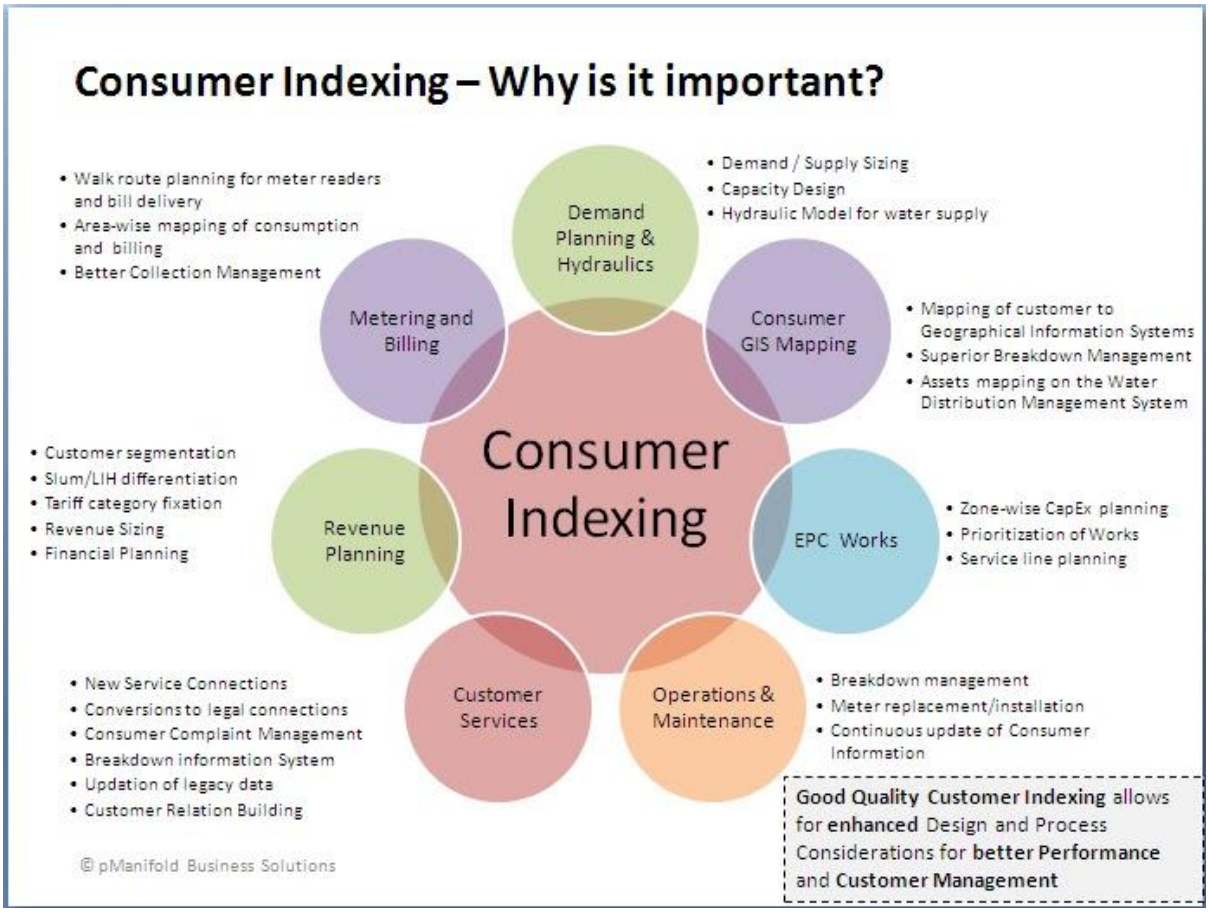
CONSUMER INDEXING

Purpose of consumer indexing :

- The purpose of GIS Mapping and Indexing of the consumers is to identify and locate all the consumers on geographical map, which are being fed from the Distribution Mains.
- There may be cases where electric connection exists but it does not exist in the utility's record. It may be a case of unauthorized connection or non-legderized connection. On the other hand, there may be cases where a connection exists in the utility's record, but it may not exist physically at site.
- Following reasons could be attributed for such anomalies:
    - 1. The connection might have been disconnected long back but the record may not have been updated.
    - 2. It may be a case where the address and other details of the consumers are not correctly recorded.
- Using GIS, the LT lines coming out from Distribution Transformer and all service connections from the LT mains can be checked with reference to the consumers connected and accordingly the consumer database can be updated.
- Indexing of all the consumers in all categories so that the consumers can be segregated feeder-wise and DT-wise is necessary.
- The consumers are mapped using GIS technology and identified based on their unique electrical address, called Consumer Index Number (CIN).

Procedure of consumer indexing

- 1. Develop Database of Electrical Network from 33 kV to LT System with related parameters of Lines, Substations and Distribution Transformers
- 2. Develop Consumer Database based on the Physical, Electrical and Commercial parameters of the consumers and linking them on GIS map
- 3. Segregation of Consumers - 11 kV Feeder-wise and Distribution Transformer-wise - to evaluate energy supplied, billed and system losses with rendering and visualization on GIS map
- 4. Superimposition of GIS-based Network and Consumer mapping database on a scale of 1:4000 or better
- 5. Evaluation of feeder-wise and DT-wise Energy Losses, correlating with load flow studies and their depiction on GIS map
- Total power network from 33KV level to LT consumer is surveyed and asset codification is done. Door –to-door survey is conducted for all consumers for meter and consumer data collection.
- The total electrical database is prepared from the survey input in Oracle database.
- A suitable Consumer Indexing formula is also developed so that a consumer can be traced unto its 33KV power source.
- Front end software is developed for data updation and consumer index number generation.


Consumer Indexing – Why is it important?
• Walk route planning for meter readers and bill delivery
• Area-wise mapping of consumption and billing
• Better Collection Management
Demand Planning & Hydraulics
• Demand / Supply Sizing
• Capacity Design
• Hydraulic Model for water supply
Metering and Billing
Consumer GIS Mapping
• Mapping of customer to Geographical Information Systems
• Superior Breakdown Management
• Assets mapping on the Water Distribution Management System
Consumer Indexing
• Customer segmentation
• Slum/LIH differentiation
• Tariff category fixation
• Revenue Sizing
• Financial Planning
Revenue Planning
EPC Works
• Zone-wise CapEx planning
• Prioritization of Works
• Service line planning
• New Service Connections
• Conversions to legal connections
• Consumer Complaint Management
• Breakdown information System
• Updation of legacy data
• Customer Relation Building
Customer Services
Operations & Maintenance
• Breakdown management
• Meter replacement/installation
• Continuous update of Consumer Information
Good Quality Customer Indexing allows for enhanced Design and Process Considerations for better Performance and Customer Management
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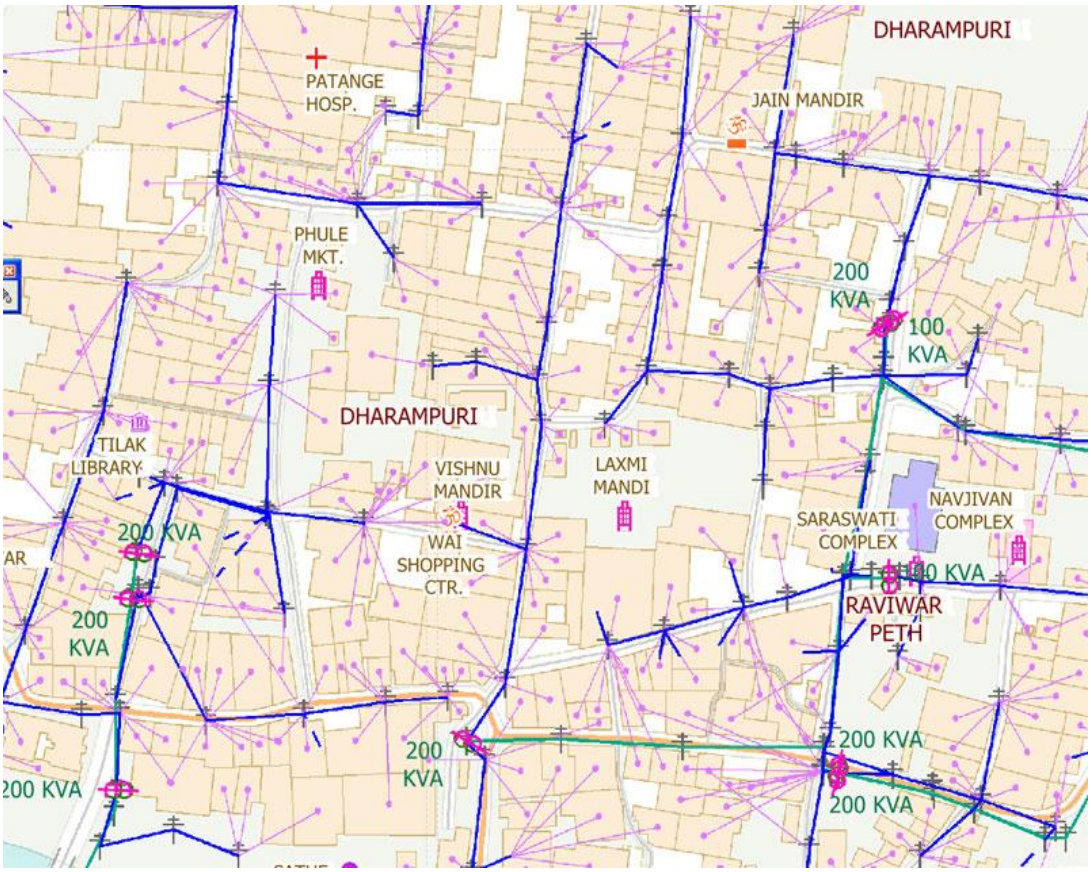
DHARAMPURI
PATANGE HOSP.
JAIN MANDIR
PHULE MKT.
200 KVA
100 KVA
DHARAMPURI
TILAK LIBRARY
VISHNU MANDIR
LAXMI MANDI
NAVJIVAN COMPLEX
SARASWATI COMPLEX
200 KVA
WAI SHOPPING CTR.
RAVIWAR PETH
200 KVA
200 KVA
200 KVA
200 KVA
200 KVA

- **Consumer Database Development:** Database of consumers to be developed based on the outcome of door-to-door survey and the consumers related records available with Discom.
- Following data in respect of various consumers existing in the area is required to be documented in software for development of consumer database.

1. Energy Meter Name plate Details
   - i) Meter serial number
   - ii) Make of meter
   - iii) Year of manufacture
   - iv) Type of meter:
     - Single phase/ Three phase four wire/ Three phase three wire
     - Direct/CT and PT connected
     - Electromechanical/Electronic/Tri vector Meter
   - v) Current rating of whole current meter
   - vi) In case of CT and PT connected meter
     - Connected CT ratio
     - PT ratio
     - Dial multiplying factor
   - vii) Any other particulars of Nameplate
   - viii) Physical condition of the meter:
     - Approachability: Inside or approachable from outside
     - Readability: Height of mounting
     - Identifiability : Clustering of meters for several consumers
   - ix) Operational status of meter:
     OK/Disc not rotating/Digits not visible/Smoky/Damages/Glass broken/Digits not Changing/Figures upset
   - x) Sealing status:
     - MCB
     - Meter Cover
     - Meter Terminal Block
   - xi) Status of wiring/Service cable: OK/Cuts/Joints/Tampering/Clustered
   Receiving bill: Yes/No
   - xii) Telephone number and/or cell phone number/PAN No./ Bank account No.
   E-mail address

2. a) Name of customer as per record
   b) Name of user of the connection
   c) Whether user is the owner, with status-Tenant, Descendant or any other
   d) Sanction load KW
   e) Connected to Pole/DT/Feeder No
   g) Single phase / Three phase

Segregation of Consumers, 11 kV Feeders wise and Distribution Transformer wise.

Advantages of Consumer Indexing :

- Error-free identification of consumers and associated electrical connectivity
- Proper tracking and updating of unauthorised and non-registered connections
- Accurate consumer source identification i.e LT Pole, DTR, 11KV Line , 33/11 Kv substation , Segregation of consumers feeder wise and DTR wise.
- Phase connection identification (R, Y or B) for LT consumers
- Proper AT&C losses calculation at DTR and 11 KV feeder
- Exact load calculation on DTR before NSC
- It helps in Network analysis and further data Processing