



APPLICATION OF BIG DATA IN MES (DECISION SUPPORT SYSTEMS)

PRESENTED BY : GROUP – 7

1 . M03 ABHISHEK MAJI

2.M13 CHAPPALE NAGARJUNA REDDY

3. M30 PRAVEEN KUMAR

4. M35 VAIBHAV PODDAR

PROBLEM STATEMENT

- **Big data** is a term that describes very large volumes of hard-to-manage data - both structured and unstructured that floods every business on a day-to-day basis. But it's not just the type or amount of data that's important; it's what organizations do with the data that matters. Big data can be analyzed for insights that improve decisions and give confidence for making strategic business moves.
- "How would Big data help your organization in terms of decision support systems" . Understand the kinds of data that you would put to use for betterment of future decisions

DATA

- The raw facts that have not been processed to explain their meaning.
- Types of Data :
 - Structured data
 - Semi structured data
 - Unstructured data

BIG DATA

- Big data is simply a data but in excessively huge quantities.
- Big data is combination of structured, semi- structured, un- structured data.
- Data as Big data (Five V's)
 - Volume
 - Velocity
 - Variety
 - Veracity
 - Value

APPLICATIONS OF BIG DATA

- Retail
- Finance
- E-Commerce
- Health-care
- Education
- Oil & Gas
- Entertainment
- Transportation
- Construction

TYPES OF BIG DATA IN M.E.S.

❑ **Building/Structure wise available Data**

- Construction cost / Unit area
- Time for Construction
- Expenditure details of Routine repairs & Special repairs
- Life before demolition carried out

❑ **Daily data of petty complaints resolved through Departmental Labour or Term Contracts**

- Type of complaints that have been addressed
- Time duration for attending the complaint
- Time duration for complete resolution of the complaint

❑ **Data of Other than petty complaints resolved through Maintenance Contracts**

- Type of repairs that have been carried out
- Time taken by contractor to complete repairs
- Cost of repairs

TYPES OF BIG DATA IN M.E.S. (CONTD...)

□ Professional databank of Junior Engineer(s) / Assistant Garrison Engineer (s)/ Garrison Engineers(s)

- Degrees held
- Training Programmes attended
- Type and Years of Experience in Private Firms
- Type and Years of Experience in Private Firms
- APAR Score
- Commendations & Awards



**USING BIG DATA ANALYSIS
TO ENHANCE
USER SERVICE DELIVERY IN M.E.S.**

WHAT IS THE PROBLEM ?

- **PRESENT DAY CHALLENGE :**

- ✓ Complain Monitoring System is Manual, with increased levels of dis-satisfaction amongst Users
- ✓ User unaware of timelines – Attending & Resolution
- ✓ No check-mechanism on Ground Executives (JE/AGE/GE)
- ✓ Complaints lie pending & unresolved

DO WE HAVE A MODERN-DAY SOLUTION ?

- **SOLUTION :**

- ✓ Online platform for **C**omplaint **L**odging, **M**onitoring & **R**esolution
- ✓ Real-time Monitoring of service complaints
- ✓ Inform User of timelines
- ✓ Penalize defaulters

HOW TO ACHIEVE THIS ?

Using **BIG DATA ANALYTICS...**



CAPTURING DATASETS...

- ✓ Across all Executive Engineer (GE) Divisions for all Maintenance Sub-Divisions
- ✓ Last 5 years Data

Daily data of petty complaints resolved through Departmental Labour/Term Contracts

Type of complaints that have been addressed

Time duration for attending the complaint

Time duration for complete resolution of the complaint

Data of Other than petty complaints resolved through Maintenance Contracts

Type of repairs that have been carried out

Time taken by contractor to complete repairs

Cost of repairs

ANALYSIS...

- ✓ **Hire Management Consultants,**
- ✓ **Analyze these datasets using available Programming/software Tools like SAAS / R / VB / MI/ JAVA/ Python etc.,**
- ✓ **Prepare Strategies,**
- ✓ **Make it user friendly & Achieve its purpose.**

IMPLEMENTATION...

Online platform for **C**omplaint **L**odging, **M**onitoring & **R**esolution

Occupant lodges an Online Service Complaint



Generate predictive Date & Time of attending complaint



Advise if it's a DEL or a Contractor related complaint



Generate predictive timeline for full resolution of complaint



Penalize defaulters (with pre-determined tolerances)

PROBLEMS IN CONTRACT MANAGEMENT – E8

- HUGE REPETITION OF JOBS BEING AWARDED (REINVENTING THE WHEEL EACH TIME)
- SPLITTING OF JOBS UNINTENTIONALLY WHICH COULD HAVE BEEN COMBINED TO GET LOWER PRICES, BETTER CONTRACT MANAGEMENT.
- MAINTAINANCE PROGRAM NOT IN SYNC WITH THE TENDER PLANNING AND AWARD
- CONTRACTOR PERFORMANCE NOT GETTING CAPTURED – LETTERS , NOTICES, ARBITRATION
- CONTRACTOR CLASS DATA VERIFICATION

SOLUTIONS USING BIG DATA

- ANALYSE AND DEVELOP CONTRACTOR RATING BASED ON DEFINED PARAMETERS – PENDENCY ON PROJECTS, RECORDS ON LABOUR PAYMENT, QUALITY ADHERENCE, ADHERENCE TO CPM CHART SUBMITTED IN BEGINNING.
- AWARDING CONTRACTS BASED ON QCBS SYSTEM RATHER THAN LI CONTRACTOR.
- BIG DATA ANALYTICS TO FIND OUT THE DELAY IS AT WHICH STAGE – BETTER PLANNING NEXT TIME, ELIMINATION OF BOTTLENECKS.
- PLANNING USING DATA FOR BETTER ARBITRATION MANGEMENT BY ANALYSING BIG DATA OBTAINED FROM PAST PROJECTS.

CHALLENGES IN IMPLEMENTATION

- HIGH LEVEL OF DATA SECURITY – AS ALL DATA IS TIED WITH USER NAME, RANK, UNIT ETC – ENCRYPTION AND ACCESS CONTROL
- DATA NEEDS TO BE STORED ON A SECURED PRIVATE CLOUD – MEGHDOOT.
- DATA INTEGRATION FROM MULTIPLE SOURCES – E1, E2(PLG), E2(DES), E4, E8, FROM AGE, GE OFFICES AND FROM REPORTS AND RETURNS – DATA LOADING AND INTEGRATION FROM MULTIPLE PLATFORMS
- STRUCTURING THE UNSTRUCTURED DATA(IMAGE, FILES, AUDIO) TO MAKE SENSE OF IT – DEDICATED SOFTWARE DEV (ON LINES OF PYTHON)
- LACK OF SKILLED PROFESSIONAL WITH DEEP UNDERSTANDING OF THE DATA GENERATED – TRG, TESTING AND CERTIFICATION



THANK
YOU