Opportunities for Business Process Improvement – Line Inspection Scheduling

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Network Asset Info. MGR
Introduction

Umeme operates a 25 year concession from the Government of Uganda (GOU) since 2005. Under the concession agreement, we operate and maintain the electricity network infrastructure on behalf of the GOU.

The Electricity Regulatory Authority (ERA) and Uganda Electricity Distribution Company Ltd (UEDCL) provide Oversight.

To successfully operate and maintain the network, we require a **functional line inspection programme**. This will ensure that Umeme’s asset register is accurate, reliable and up to date at all times.

Accurate and reliable data will inform better planning, improve operational efficiency, facilitate stakeholder reporting and management decision support.
Lack of a schedule based system and supportive technologies has been a great hindrance to the realization of an accurate asset register within Umeme over the years.

This is because portions of the network have continued to be inspected in an adhoc and incoherent manner year in year out.
Approach:
a) Alignment with strategic objectives/pillars

What is the impact of Network inspections to safety?

How does line inspection improve the shareholder value?

How does line inspections contribute to reduction of losses?

How can we improve customer service through effective line inspection?
b) Align People to Processes and Systems

- **People** - Behaviour Management
- **Process** - Changes in Workflows
- **Systems** - New Infrastructure for storage (cloud)/reporting/communication
Criteria for Scheduling Inspections:

1. Feeder performance
2. Age of Asset Information Data available
3. New Network extensions/configurations
4. Adhoc requests
Methodology Adopted

Step 1) Develop Selection Criteria (Old Data, Worst performing feeder etc)

Step 2) Process zones/Schedule job

Step 3) Download GIS service using GPRS

Step 4) Inspect network (30 days window)

Step 5) Update database
Distribution Network Grid Generation

5 - 7 km per day average coverage per Asset Inspector

Total of 3050 Squares country wide representing 3.5km x 3.5km boxes
• 1) Server Side/Mobile Client connection
• 2) GPRS connection
• 3) Enterprise Geo Database/Desktop Client connection
Online Reporting

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Benefits for Scheduling Line Inspection

1) Ability to generate schedules that expire within a set time span (daily, weekly, **monthly**)

2) Improved **data integrity** since capture outside a schedule is prohibited and won’t be updated onto the production database
3) Ability to monitor progress for inspections every 30 minutes through on demand online reports relayed via GPRS from field to office

4) On demand sync for Device datetime with GPS datetime
5) Raises the level of data ownership, responsibilities and accountability. Supervisors have visibility of field workforce activities.

6) Improved data accuracies. You won’t rush through data capture of any asset e.g. Pole, Line before a set time (2 minutes) which allows you to accurately populate an electronic form.
7) Possibility of inspecting the whole network annually i.e. 30,000km of lines, 450,000 poles, 12,000 distribution transformers (Regulatory requirement)

8) Resource optimization because schedules are based on pockets of zones defining a feeder as opposed to commercial districts
9) Improved **performance management** for the field work force

10) Improved support for safety matrix commonly known as District Asset Risk Matrix (Red – Urgent) (Amber – Planned) (Green – Ok)
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Questions

Suggestions

End

Lower Operating Costs