IN BRIEF

UTILITY ANALYTICS:

HOW A (GOOD) DATA FRAMEWORK TODAY LEADS TO ANALYTICAL INSIGHTS TOMORROW

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As we engage utilities on their progress and insights deploying data analytics platforms and use cases, we're noticing a common theme. When embarking on more complex operational technology (OT) use cases, they are finding gaps in historical records that require them to revisit or rethink their data acquisition, storage, and retrieval strategies.

The next generation of OT systems is now being deployed – transmission & distribution SCADA/EMS, advanced distribution management systems (ADMS), and distributed energy resource management systems (DERMS) to name a few. These systems are deployed alongside, or directly as a result of, many line/load-side grid-edge sensors that contain high potential for future data insights. How can these new systems apply the lessons learned from the prior OT investments (e.g. advanced metering infrastructure (AMI)) to support future growth?

STARTING YOUR ADVANCED ANALYTICS USE CASE JOURNEY

Over the past decade, foundational AMI investments are centered around meter-to-cash efficiencies, with the promise of additional customer- and grid-related analytics use cases over time. Fast forward several years, the utility has achieved a near-complete deployment and stabilized the back-office systems to deliver AMI-centered billing. Now the fun part begins – digging into the historical meter events, alarms, and telemetry data to begin advanced analytics use cases. Too often, this investigation can lead to disappointing results:

1| DATA ACQUISITION

The required data was not recorded or transmitted off the device. Examples: Events/alarms were stored locally and eventually purged, or, the 'optional' telemetry channels (e.g., voltage, temperature, etc.) were not collected at the granularity and/or correct calculation method.

2| DATA STORAGE

The data was collected, but the records were not retained in a useable form. Example: the AMI vendor purged historical records (typically after 90 or 180 days) per the utility's licensing agreement.

3| DATA RETRIEVAL

The data was collected and stored, but it does not align with or requires prohibitively complex transformations to associate with other source systems. Examples: For grid operations use cases, poor meter connectivity modelling provides inaccurate or incomplete results. For customer operations use cases, meter/account historical records do not align between IT/OT systems.

NAVIGATING ROADBLOCKS

To avoid common pitfalls, utilities should perform up-front diligence on data maturity:

1| REVIEW DATA AVAILABILITY

Starting with the use case in mind; work with system owners to understand:

- Data breadth – Are there gaps in data within individual systems, operating companies, etc.?
- Historical variances – Are historical datasets usable? Can historical data be mapped to ongoing data?
- Data quality – Qualitatively, is data trusted by the business? What are the known gaps? How much manual involvement is required to make sense of the data?

2| PERFORM ANALYTICS ON A SAMPLE

No number of meetings or workshops can capture data gaps better than hands-on analysis; attempting to create insights using data samples will uncover issues early in the process.

3| FOCUS ON QUICK-WINS

Avoid boiling the ocean by demonstrating insights quickly to the business and capturing feedback; iterate to more complex use cases and the complete analytics vision.

At West Monroe, we help our utility clients design, qualify, and build analytics use cases. We employ an agile approach called 'Rapid Insights' to help our clients avoid common pitfalls by working iteratively with data during the analytics use case design process.

By focusing on demonstrating value from day one, we help our clients better estimate costs and value of implementing analytics solutions. For more information, contact us.