
Driving Informed Decisions

A Regulatory Dashboard for Water Utilities

Team AlgoRhythms
April Ma
Hanaan Shafi
Lindelwa Hlawe

Applied Data Institute 2024

Introduction

ABOUT **WASREB**

“ Sustainable Water Services ”
for Quality Life

Mandate

Sets standards and enforces regulations to:

Protect consumers

Ensure access to efficient,
affordable and sustainable services

Provide for financial sustainability
of Water Service Providers

Challenges in Utility Regulation



Fragmented Data

Difficulties in accessing and consolidating utility performance data

Lack of Comparability

Limited tools for benchmarking utilities against performance standards

Time-Consuming Process

Manual data analysis delays insights for decision-making

Transparency Gaps

Limited clarity for stakeholders regarding utility compliance and performance

Hindered regulatory oversight

Reduced accountability

Inefficiencies in resource allocation

Dashboard Demo

Data Insights



Data Overview and Key Challenges

Data Areas

Access and Coverage

- How many water and sewer services are provided

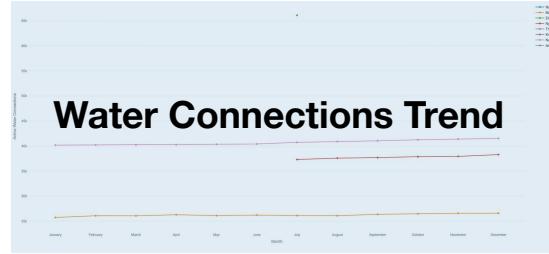
Efficiency and Quality

- How well the services are
- Whether the services meet quality standards

Production and Billing

- How much water is produced and delivered
- How much money collected for the services

Key Trends and Metrics



Key Challenges

Incomplete Data

Inaccurate Data

Inconsistent Data

Business Impact and Recommendations



Business Impact

Incomplete Data

Limits ability to forecast demand, leading to service disruptions during peak periods

Inaccurate Data

Leads to financial mismanagement and resource allocation inefficiencies

Inconsistent Data

Creates confusion in decision-making and hampers performance benchmarking

Recommendation

Mandate regular data submissions from all utilities

Implement data validation, such as flagging anomalies

Standardize reporting formats and intervals across all utilities



Conclusions



Conclusions



Summary

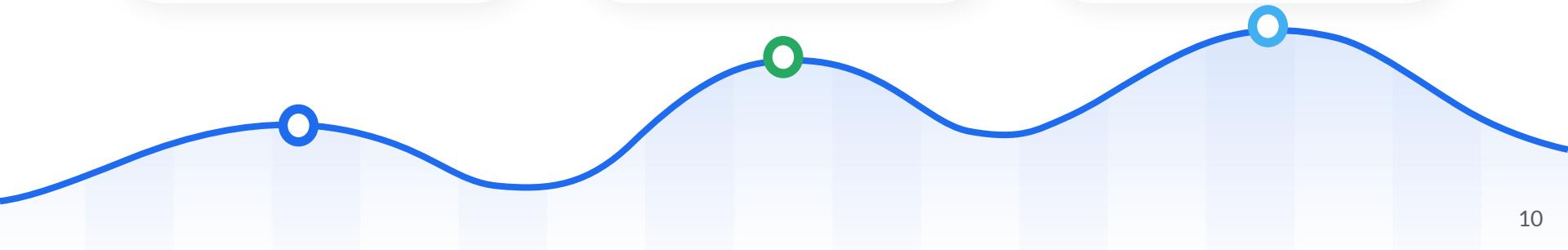
- Key data challenges identified
- Dashboard enables utility performance analysis and benchmarking

Achievements

- Unified, consolidated, standardized data
- Aligned with stakeholder goals

Way Forward

- Establish universal, standardized data process
- Capacity building and data analytics training



Conclusions



Our dashboard supports WASREB's mission by enabling efficient decisions, seasonal planning, and improved compliance.

We are ready for impact.

Thanks for listening!

Questions?

Team AlgoRhythms
Applied Data Institute 2024

About WASREB

Vision

Sustainable Water Services for Quality Life

Mandate

Sets standards and enforces regulations to guide the sectors:

- Protect consumers and ensure access to efficient, affordable and sustainable services
- Provide for financial sustainability of Water Service Providers

Main Obstacles

Data Accuracy and Timelines

Sector Accountability

Financial Viability of WSPs

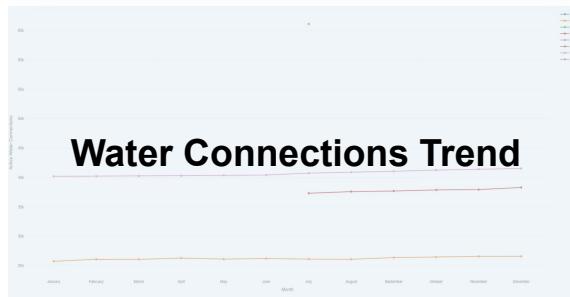
Resource Constraints

Data Overview and Key Challenges



Access and Coverage

- How many water and sewer services are provided



Water Connections Trend

Efficiency and Quality

- How well the services are provided
- Whether the services meet quality standards



Water Quality Compliance

Production and Billing

- How much water is produced and delivered
- How much money collected for the services



Revenue Collection Efficiency

Incomplete Data

Inaccurate Data

Inconsistent Data

Business Impact and Recommendations



Incomplete Data

Eg. Limits ability to forecast demand, leading to service disruptions during peak periods.

Inaccurate Data

Leads to financial mismanagement and resource allocation inefficiencies.

Inconsistent Data

Creates confusion in decision-making and hampers performance benchmarking.

Mandate regular data submissions from all utilities.

Implement data validation tools, such as flagging anomalies.

Standardize reporting formats and intervals across all utilities.