# Tableau Project Report

## Phase 5: Functional and Performance Testing

Ensuring the reliability and efficiency of the Tableau dashboards is critical. This phase validates whether the system performs accurately and efficiently under expected and peak conditions.

## a. Functional Testing

Functional testing ensures that every feature in the Tableau dashboards operates according to specified requirements. The goal is to validate correctness, usability, and workflow functionality.

Key aspects tested:

- Data Integrity: Ensures that all visualizations reflect accurate, up-to-date data pulled from validated sources.
- Filter and Drill-Down Functionality: Verifies that interactive elements like filters, slicers, and drill-downs function as intended.
- Navigation and Accessibility: Checks that all buttons, menus, and navigation options work correctly.
- User Role Validation: Confirms users only access features appropriate for their permissions.
- Export and Sharing Features: Tests PDF, Excel export, and sharing options for accuracy.

## b. Performance Testing

Performance testing assesses the speed, scalability, and stability of the Tableau dashboards, especially when handling large datasets or concurrent users.

Key metrics and activities:

- Load Testing: Evaluates dashboard performance under normal and peak usage.
- Response Time: Measures time taken to load dashboards and respond to inputs.
- Stress Testing: Pushes the system beyond usage limits to assess behavior.
- Optimization Checks: Ensures use of efficient calculations and optimized data structures.
- Caching and Data Extract Validation: Validates proper configuration to improve speed.
- Error Handling and Logging: Assesses how the system logs and manages errors.

## Conclusion

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The Tableau project integrates data visualization with health and educational insights to empower schools in making proactive, impactful decisions. By rigorously testing both functionality and performance, the solution ensures reliability, scalability, and user satisfaction-ultimately driving better health and academic outcomes for students.