**TEST STRATEGY**

### 1. SCOPE OF WORK

QA activities will focus on verifying the data quality and functionality of the following Power BI dashboards, prioritized in this order:

1. Power BI Dashboard "Sales"
2. Power BI Dashboard "Cost"
3. Power BI Dashboard "Stocks"

### 1.1 ENTRY CRITERIA

Testing activities may begin when the following criteria are met:

* A stable build is available and successfully installed.
* Configuration files are correctly set up.
* Requirements/User Stories are finalized and approved.
* Smoke Test has passed for major features.
* Test environment is prepared and available.
* Test data is available and meets the testing needs.
* Bugs blocking major features are resolved or have acceptable workarounds.

**Possible Risks:**

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| --- | --- | --- | --- | --- |
| **#** | **Risk** | **Severity** | **Description** | **Resolution** |
| 1 | Incomplete Functional Specifications before sprint start | High | Could delay testing and reduce test coverage | Ensure requirements are finalized in Grooming sessions. No major changes 3 days prior to DEMO. |
| 2 | Unplanned feature scope increase | High | Increases testing scope and time required | Negotiate and document impact; de-scope low-priority features if needed. |
| 3 | Inconsistent data or access issues in source systems | Medium | May lead to invalid test results | Verify access to sources and validate test data early. |
| 4 | Tool or environment unavailability | High | Could block test execution | Set up and validate environments at iteration start. Maintain backup environments. |

### 1.2 TEST APPROACH

**High-Level Test Activities:**

1. Review and analyze User Stories and Functional Specs.
2. Identify and prepare test scenarios and test cases.
3. Set up and validate test environment.
4. Conduct Smoke Testing.
5. Conduct Critical Path Testing.
6. Conduct Extended Functional Testing.
7. Perform Data Quality and Reconciliation Testing.
8. Execute exploratory/ad hoc testing.
9. Log and track defects.
10. Conduct Test Result Review.
11. Generate and submit Test Result Report.

**Testing Methods:**

* Manual Functional Testing (Primary method)
* Data Reconciliation Testing using SQL queries and Power BI visuals
* Exploratory Testing
* No automation planned in the POC stage

**Test Levels:**

1. **Smoke Test:** Validate key functionality and readiness for further testing.
2. **Critical Path Test:** Validate major business-critical features.
3. **Extended Test:** Test for edge cases, boundary values, and negative scenarios.

**Bug and Documentation Tracking:**

* Bugs tracked using internal bug tracking system.
* Metrics on bug severity, module, status, etc. included in reports.

**Severity Levels:** Critical, Major, Minor, Low **Priority Levels:** Critical, High, Medium, Low

### **Test phases**

The testing process is organized into four major phases aligned with sprint timelines and project priorities:

**Phase 1: Initial Validation & Functional Testing**

* Data Validation
* Performance Testing (initial rounds)
* Unit Testing
* Functional Testing
* DWH Layer testing

**Phase 2: Cross-functional & Load Testing**

* Cross-Module Workflow Testing
* Business Process Testing
* Security Testing
* Repository Testing & Validation
* Load Testing (incremental)

**Phase 3: Regression Testing**

* Regression testing of key business features, KPIs, filters
* Re-test defect fixes
* Coverage of updated patches or newly added requirements

**Phase 4: Business and Client Acceptance**

* End-user validation
* No new test scenarios introduced
* Final sign-off before Go-Live