Data Quality

DWBI Test Plan and Test Strategy

TASK 8 REPORT

CONTENTS

TEST STRATEGY 2

SCOPE OF WORK 2

ENTRY CRITERIA 2

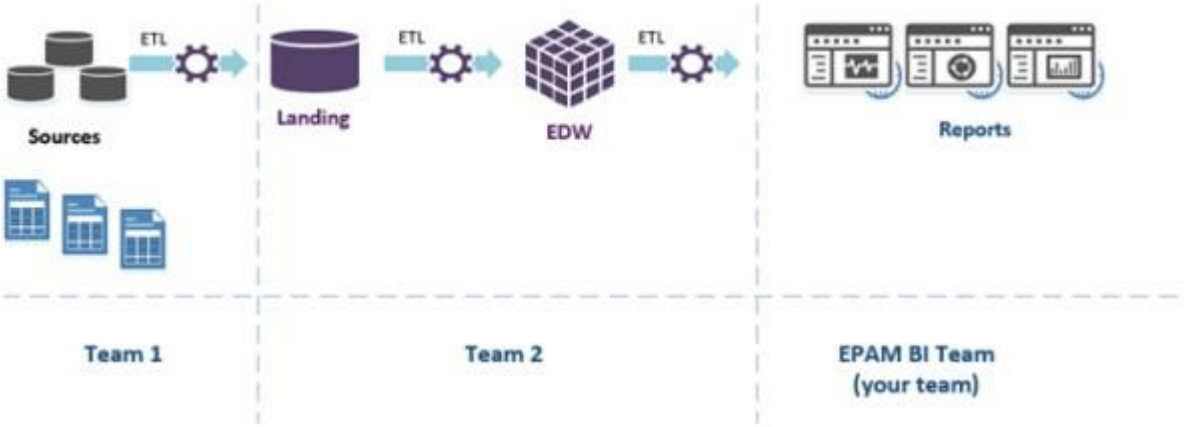
TEST APPROACH 4

Dashboards Functionality Verification 4

Report Graphical User Interface Verification 5

Ad Hoc Verification 6

TEST STRATEGY



High-level project diagram

SCOPE OF WORK

The scope of work for the QA activities is defined to the verification of the quality for BI Power BI dashboards in the following priorities:

- Power BI dashboard “Sales”
- Power BI dashboard “Cost”
- Power BI dashboard “Stocks”

Functional requirements for each Power BI dashboard are available.

Out of Scope:

- Functional testing - ETL and EDW testing
- Non-functional testing: performance testing

ENTRY CRITERIA

- Data Mapping completed
- Test Environment is available
- Connection to DWH established
- All necessary accesses are granted
- Data loaded to the DWH
- ETL and DB QA tests completed
- Full functional and Business requirements are received and approved.
- The test strategy document is ready.
- Test plan reviewed and approved.
- Test cases are reviewed and approved.
- The data is loaded to the Reports level.
- Roles are defined and access is provided.

#	Risk	Severity	Impact	Possible Resolution
1	Functional Specification are not completed before the start of the sprint, frequent changes at the end of the sprint	High	Quality of the software; Delays in implementation date; Loss of the suitability of the test documentation ([PROJECT NAME] POC Functional Checklist)	Don't deliver any major changes in the code at least 3 days before the DEMO.
2	Scope is increased by new unplanned Features or Change Requests	Hight	Iterations Scope is increased; Delays in implementation date;	Efficient negotiation and approval of the impact to schedule/quality caused by the delay signed off by Customer; Possibly reduce increased scope by dropping low-priority Features.
3	Application does not contain the specified change(s) (Smoke Test Failed)	High	High	Make sure that all development stages were finished. Do not start testing while development is in process.
4	Functionality doesn’t work, works improperly or there is a fault with a feature that prevents its testing (Smoke Test failed)	High	High	Make sure all ETL tests were successfully passed before Dashboards testing
5	Data wasn’t loaded in time, before the start of the sprint	Hight	High (Delays in implementation date)	Efficient negotiation and approval of the impact to schedule/quality caused by the delay signed off by Customer;
6	Incorrect or incomplete Specifications and Requirements	Hight	Quality of the software; Delays in implementation date;	Involve the team in the analysis of specifications and requirements at an early stage
7	Testing delay to unresolved defect	Low	High (Delays in implementation date)	To highlight the defect immediately in reports, metrics, verbally or by the mail and fixed it with top priority

TEST APPROACH

Dashboards verification will consist of the two main areas:

- Report Functionality verification
- Report User Interface verification
- Security verification
- Performance verification

Dashboards verification of the reporting solution will be primarily focused to ensure that all developed report functionality and user interface shown in the Dashboards are correct and accessible to the end-users from a performance and security standpoint.

Dashboards Functionality Verification

By the functionality verification, we want to ensure that all required functionalities of each separate Dashboard were developed as expected, based on the functional specifications.

Scope: All report functionalities are described in the functional specifications of each Dashboard.
E.g. prompts, filters, sorting and drilling options, export to Excel and PDF etc.

Test Case Techniques and Steps:
Verify COMPLETENESS and UNIQUENESS:

- Check the data model, verify that dimensions and fact tables are mapped correctly and that all relationships are correct.
- Make COUNT, SUM MIN, MAX, AVG checks in dashboards, desktop reports and DWH. The values should be equal.
- Check metadata: compare the names of all charts, data labels, and legend with specification.
- Verify that all tables and columns were fully loaded to PBI Desktop.
- Make sure the data transformation is correct.

Verify VALIDITY:

- Verify that all functionalities and report options such as prompts, filters, drilling, sorting options and so on are accessible, work as required and show appropriate results. Compare with SQL queries results in DWH.
- Check how data precisions, rounds, dates, time, and numbers are displayed in Dashboards. Make sure it meets the requirements.
- Validate calculation logic against business requirements.

For each prompt perform the following tests:

- Apply each prompt and verify that the data in the Dashboard is getting filtered appropriately.
- Verify that all the prompts are available as per requirements. Also check if the type of the prompt matches the design specification.
- For each prompt verify the label and list of values displayed (where applicable).
- Verify the default prompt selection satisfies the report and Dashboard page design specification. **For each link to the drill-down report, verify the following items:**
- lied to the detail report.
- Check if the links to the detailed report from the summary report are working from charts, tables, table headings.
- Verify the database SQL query for the drill-down report is as expected.
- Verify that the counts are matching between the summary and detail report where appropriate. ● Verify that all the prompts from the summary reports are getting app

Verify ACCURACY:

- Verify that there are no negative values for Sales, Costs and Stocks.
- Verify that age ranges are appropriate (no values lower than 7 years and higher than 120 years).

- Verify that the data shown in the report is accurate:
- Verify that date ranges are appropriate (no values earlier than 2000 year and future dates).

Verify CONSISTENCY:

- Verify export functionality to Excel, PDF, CSV, etc. Exported data should be equal to the data in PBI.
- Verify that similar data on different dashboards is equal.
- Verify that Dashboards have the same values in Mobile layout.

Verify TIMELINESS:

- Verify that the report refreshes without delay after data comes to the DWH and according to the refresh schedule.

Verification Technique: Manual verification; SQL queries.
Quality and Acceptance Criteria: All functionalities of each separate Dashboard should work as it was described in the functional requirements specification.

Report Graphical User Interface Verification

By the GUI testing, we want to ensure that the user interface provides the user with the appropriate access and navigation through the report options. We also want to ensure whether the product operates correctly in configurations with various browsers and screen resolutions.

Scope: All objects related to the User Interface (such as fonts, colors and visualizations) described in the design requirements under all required browsers and screen resolutions.

Test Case Techniques and Steps:

- Verify if title of the Dashboard, logo is correct.
- Verify if the header and footer are correct and displayed on all the pages.
- Verify the numbering on pages are in sequence.
- Verify the font, font size and pattern, and alignment of texts and numbers are correct.
- Verify if embedded images or docs in reports are visible enough and open correctly.
- Verify if links provided in reports are correct and open to the right page.
- Check the whole report displayed in required browsers and screen resolutions.
- Verify if the Dashboard layout is as per specification.
- Check that all colors and fonts are as per specification.
- Check graphs, grids, prompts, filters, widgets layout on the page.
- If the report has tables, then check if data is displayed proper format, rightly aligned and column headings are correct.
- If reports have graphs, check if it’s not broken up into pages, are visible enough and have headings.
- Verify if the dates displayed on the reports are in the same predefined format.

V**erification Technique:** Manual verification.
Quality and Acceptance Criteria: There should be no any discrepancies between defined design requirements and developed design in the particular report.

Ad Hoc Verification

Objectives: By the Ad Hoc verification we will conduct all verifications specified above: reports functionality and GUI verification.

Scope: All measures and attributes related to the particular Dashboard area.

Test Case Techniques:

- Add new DIM and FACT table to the DWH and verify that all previously described verifications are passed.
- Add new column to the DWH and verify that all previously described verifications are passed.
- Add new DIM table to the DWH and verify that all previously described verifications are passed.
- Perform Incremental load of a new data to the DWH and verify that all previously described verifications are passed.

Quality and Acceptance Criteria: All functionalities of each separate Dashboard should work as it was described in the functional requirements specification. Each measure is calculated correctly with all possible attribute joined with. Each attribute joined with all other attributes and measures displays correct data.