

Testing & validation Checklist

1. Data Integrity & Model Validation

1.2 Table & Relationship Checks

- All required tables are loaded (jobs, invoices, payments, job_costs, dimensions).
- Primary-foreign key relationships are correctly defined (1:Many).
- No circular or ambiguous relationships exist in the model.
- Only one active relationship exists between the same two tables.
- Date fields are properly typed as Date (not Text).

1.2 Table & Relationship Checks

- Total Jobs = 1,500
 - Completed Jobs = 1,037
 - Invoiced Jobs \leq Completed Jobs
 - Payments exist only for invoiced records
 - No orphan records (e.g., invoice without customer, job without status)
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2. KPI Calculation Validation

KPI 1: Invoice Handoff Delay (Completed Jobs)

- Completed-but-not-invoiced count = **73**
- All jobs counted have job status = **COMPLETED**
- None of the counted jobs appear in invoice line items
- Pending days calculation uses `CURRENT() - completed_date`
- Oldest pending job = **344 days**

KPI 2: Days Sales Outstanding (DSO)

- DSO calculated only on fully paid invoices
- Partial or unpaid invoices are excluded
- Average DSO \approx **29 days**
- KPI aligns with AR aging visuals
- DSO decreases/increases logically with date filters

KPI 3: Job Cost Variance

- Actual cost = **SUM(job_costs.actual_amount)**
- Estimated cost > 0 for all included jobs
- **Variance = Actual – Estimated**
- Jobs with no cost records are excluded
- Highest variance \approx **\$23,670.31**
- Cost overrun job count = **817**

KPI 4: Unbilled Revenue Exposure

- Only completed jobs are included
- Invoiced jobs are excluded
- Revenue uses estimated revenue consistently
- Total unbilled revenue \approx **\$563.21K**
- KPI responds correctly to Region and Service Type filters

KPI 5: Job Cycle Time

- Calculated only for completed jobs
 - **Cycle time = completed_date – scheduled_date**
 - Average cycle time \approx **61 days**
 - Longest cycle time \approx **63 days**
 - Central region shows highest average cycle time
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3. Cross-Page Consistency Checks

- Completed Jobs count is consistent across all pages
 - Unbilled Job count matches between KPI cards and exception tables
 - Filters affect all visuals consistently
 - No KPI shows contradictory values across pages
 - Totals in tables reconcile with KPI cards
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4. Filter & Interaction Validation

- Region slicer filters all visuals correctly
 - Service Type slicer filters all visuals correctly
 - Multiple slicers applied together behave as expected
 - No KPI breaks or shows blank unexpectedly
 - Drilldowns show correct underlying records
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5. Exception & Edge Case Validation

- No negative values shown for count-based KPIs
 - Null dates do not break visuals
 - Cancelled jobs are excluded where defined
 - Overdue invoices correctly identified using due date logic
 - Overdue invoice count \approx **290**
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6. Performance & Usability Checks

- Dashboards load without errors
 - KPI cards render within acceptable time
 - Visuals are readable without hover where possible
 - Titles and labels clearly describe the metric
 - No unexplained abbreviations or technical jargon visible to users
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7. Business ValidationAction

- Numbers “make sense” from a business perspective
 - KPIs align with stated business problems
 - Insights can be explained without referring to SQL
 - Results are defensible in an interview setting
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