



DATA4REST

Data Tells A Story. What's Yours?

Data Requirements Guide: What Reports You Need for Maximum Insights

This guide shows you which reports to provide and what columns each report should contain to get the most value from all 6 Data4Rest Analytics packages.

How Report Identification Works

Important: Our system automatically identifies report types by analyzing the **content** of your files (headers and data structure), not by filename. This means:

-  **Filenames don't matter** - You can name your files anything (e.g., `sales.csv`, `data.xlsx`, `report_2024.txt`)
-  **Automatic detection** - The system uses AI to analyze your file structure and identify the report type
-  **Flexible field names** - We support various column name formats (e.g., `MenuItem`, `ItemName`, `Product` all work)
-  **Smart matching** - The system recognizes common variations in field names across different POS systems

The system identifies these report types:

- **POS Sales Report** - Individual menu item sales (each row = one item sold)
- **Order Summary Report** - Complete order summaries (each row = one order)
- **Menu Cost Report** - Recipe costs, menu costs, supplier pricing
- **Labor Schedule/Payroll Report** - Employee hours, wages, schedules
- **Waste Tracking Report** - Waste costs, waste reasons, disposal tracking

POS Sales Report

Benefits These Packages:

- Menu Engineering
- Discount Loss Detector
- Time-Based Behavioral Analysis
- Financial Health Dashboard
- Historical Trend Analysis & Forecasting

Recommended Columns:

- `Date` (or `OrderDate` , `TransactionDate`) - Date of the sale
- `Time` (or `OrderTime` , `TransactionTime`) - Time of the sale
- `OrderID` (or `TransactionID` , `ReceiptNumber`) - Unique order identifier
- `MenuItem` (or `ItemName` , `Product` , `Dish`) - Name of the menu item sold
- `Category` (or `ItemCategory` , `MenuCategory`) - Category of the item (e.g., Appetizers, Entrees, Desserts)
- `Quantity` (or `Qty` , `UnitsSold`) - Number of items sold
- `UnitPrice` (or `Price` , `MenuPrice` , `SellingPrice`) - Price per unit
- `TotalAmount` (or `Total` , `NetSales` , `Revenue`) - Total sale amount
- `DiscountAmount` (or `Discount` , `DiscountTotal`) - Amount discounted (if any)
- `PaymentMethod` (or `PaymentType`) - How customer paid (Credit Card, Cash, etc.)
- `ServerName` (or `Server` , `EmployeeName` , `StaffName`) - Name of server who took the order
- `TableNumber` (or `Table` , `TableID`) - Table number (optional but helpful)
- `OrderType` (or `ServiceType` , `Channel` , `ServiceChannel`) - Type of order (Dine-In, Takeout, Delivery, etc.)

Optional but Helpful:

- `VoidAmount` - Amount voided/refunded
- `TaxAmount` - Tax charged
- `TipAmount` - Tips received

Order Summary Report

Benefits These Packages:

- Discount Loss Detector (optional for enhanced discount/void analysis)
- Historical Trend Analysis & Forecasting

Recommended Columns:

- `OrderID` (or `OrderNumber` , `ReceiptID`) - Unique order identifier
- `OrderDate` (or `Date`) - Date of the order
- `OrderTime` (or `Time`) - Time of the order
- `TableNumber` (or `Table` , `TableID`) - Table number
- `PartySize` (or `Guests` , `NumberOfGuests` , `PartyCount`) - Number of people in the party
- `ServerName` (or `Server` , `EmployeeName`) - Name of server
- `TotalAmount` (or `Total` , `OrderTotal` , `Subtotal`) - Total order amount
- `TaxAmount` (or `Tax`) - Tax charged
- `TipAmount` (or `Tip` , `Gratuity`) - Tips received
- `PaymentMethod` (or `PaymentType`) - How customer paid
- `OrderStatus` (or `Status`) - Order status (Completed, Cancelled, etc.)
- `OrderDiscount` (or `Discount` , `DiscountAmount`) - Discount applied to order
- `OrderVoid` (or `VoidAmount`) - Amount voided (if any)

Optional but Helpful:

- `SpecialRequests` - Special instructions or requests

Menu Cost Report

Benefits These Packages:

- Cost Optimization (Cost Analysis component - required)
- Menu Engineering
- Financial Health Dashboard
- Historical Trend Analysis & Forecasting

Recommended Columns:

- `ItemName` (or `MenuItem`, `Product`, `Dish`) - Name of the menu item
- `Category` (or `ItemCategory`, `MenuCategory`) - Category of the item
- `UnitCost` (or `Cost`, `ItemCost`, `FoodCost`, `RecipeCost`) - Cost per unit to make the item
- `MenuPrice` (or `Price`, `SellingPrice`, `RetailPrice`) - Price charged to customer
- `CostPercentage` (or `FoodCostPercent`, `CostPct`, `COGS`) - Menu cost as percentage of price
- `ProfitMargin` (or `Margin`, `ProfitPct`, `GrossMargin`) - Profit margin percentage

Optional but Helpful:

- `Supplier` (or `Vendor`) - Supplier name (used for supplier performance insights in Menu Engineering)

Labor Schedule / Payroll Report

Benefits These Packages:

- Financial Health Dashboard (optional for labor cost analysis)
- Historical Trend Analysis & Forecasting

Recommended Columns:

- `EmployeeID` (or `EmpID`, `StaffID`, `ID`) - Unique employee identifier
- `EmployeeName` (or `Name`, `StaffName`) - Employee name
- `Position` (or `JobTitle`, `Role`) - Job position (Server, Chef, Manager, etc.)
- `Department` (or `Dept`) - Department (Front of House, Kitchen, etc.)
- `Date` (or `WorkDate`, `ShiftDate`) - Date of the shift
- `ShiftStart` (or `StartTime`, `ClockIn`) - Shift start time
- `ShiftEnd` (or `EndTime`, `ClockOut`) - Shift end time
- `HoursWorked` (or `Hours`, `TotalHours`) - Total hours worked
- `HourlyRate` (or `Rate`, `Wage`, `PayRate`) - Hourly wage rate
- `GrossPay` (or `GrossWages`, `RegularPay`) - Base pay before overtime
- `TotalPay` (or `TotalWages`, `TotalCompensation`) - Total pay including overtime

Optional but Helpful:

- `TotalCompensation` - Total including tips and bonuses (used as fallback for labor cost calculations)

Waste Tracking Report

Benefits These Packages:

- Cost Optimization (Waste Analysis component - optional)
- Financial Health Dashboard (optional for waste cost analysis)
- Historical Trend Analysis & Forecasting

Recommended Columns:

- `Date` (or `WasteDate`) - Date waste occurred
 - `ItemName` (or `MenuItem`, `Product`) - Name of item wasted
 - `Category` (or `ItemCategory`) - Category of wasted item
 - `WasteType` (or `Type`) - Type of waste (Food Waste, Beverage Waste, etc.)
 - `QuantityWasted` (or `Quantity`, `Qty`, `Amount`) - Amount wasted
 - `UnitOfMeasure` (or `Unit`) - Unit of measurement (lbs, servings, units, etc.)
 - `WasteReason` (or `Reason`, `Cause`) - Why it was wasted (Overcooked, Expired, Prep Error, etc.)
 - `CostPerUnit` (or `UnitCost`, `ItemCost`) - Cost per unit of the item
 - `TotalWasteCost` (or `TotalCost`, `WasteCost`) - Total cost of the waste
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Getting Maximum Value

Minimum Requirements

To get insights from **at least 4-5 packages**, provide:

-  POS Sales Report
-  Menu Cost Report

Recommended Setup

To unlock **all 6 packages** (including optional components), provide:

-  POS Sales Report
-  Order Summary Report
-  Menu Cost Report
-  Labor Schedule / Payroll Report
-  Waste Tracking Report

Date Range Limits

The system enforces date range limits based on your subscription type to ensure optimal analysis quality:

- **Pay-Per-Analysis (PPA):** Maximum **14 days (2 weeks)** of data per analysis
- **Subscription:** Maximum **7 days (1 week)** of data per analysis (designed for weekly reporting cadence)

Why these limits?

- Subscription users can run 4 analyses per month (one per week), making weekly reports the ideal cadence
- PPA users can analyze up to 2 weeks of data for more comprehensive insights per analysis
- These limits ensure accurate, focused insights and prevent processing delays

Data Age (How Old Can Data Be?):

- **All analyses** (including Menu Engineering, Cost Optimization, etc.): Limited to **data from the last 18 months** - Reports older than 18 months cannot be analyzed. This ensures data relevance and consistency with Historical Trend Analysis, which also uses an 18-month limit.
- **Historical Trend Analysis:** Limited to **data from the last 18 months** - Reports older than 18 months are automatically excluded from trend analysis to maintain data relevance

Planning your uploads:

- **Subscription users:** Export data for one week at a time (e.g., Monday-Sunday)
- **PPA users:** Export data for up to 2 weeks at a time
- The system will warn you during upload if your data exceeds these limits

For Historical Trend Analysis

- Upload reports from **at least 4 distinct time periods** (e.g., 4 weeks, 4 months, or 4 quarters)
 - **Recommended: 6+ periods** for optimal accuracy in seasonality detection and forecasting
 - Use the **same report structure** for each period (consistent period types work best)
 - Include **date columns** in all reports
 - **Important:** Historical Trend Analysis only includes data from the **last 18 months** - Reports older than 18 months are automatically excluded
 - **Note:** Historical Trend Analysis is exempt from date range span limits (requires 4+ distinct periods)
 - **Note:** The system validates data quality and will warn about gaps or mixed period types
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Important Notes

Date Range Limits:

- The system enforces date range limits based on your subscription type:
 - **Pay-Per-Analysis (PPA):** Maximum **14 days (2 weeks)** of data per analysis
 - **Subscription:** Maximum **7 days (1 week)** of data per analysis (designed for weekly reporting cadence)
- These limits ensure optimal analysis quality and prevent processing delays
- The system will warn you during upload if your data exceeds these limits
- **Data Age:** All analyses are limited to data from the last 18 months to ensure data relevance and consistency with Historical Trend Analysis
- **Exception:** Historical Trend Analysis is exempt from date range span limits (requires 4+ distinct time periods)

Column Name Flexibility:

- Our AI system recognizes many variations of column names
- For example: `MenuItem`, `ItemName`, `Product`, `Dish` all work for item names
- The system automatically maps your columns to the right fields

Typical Export Compatibility:

- Most POS, payroll, scheduling, and inventory systems export CSV files with the required fields automatically
- Column names may vary between systems (e.g., `EmployeeID` vs `EmpID` vs `StaffID`), but the data is typically present
- Cost analysis and labor reports from standard systems usually include all necessary fields
- Waste tracking is less standardized and may not be available from all systems

Data Format:

- All files should be in **CSV format**
- Dates should be in a standard format (YYYY-MM-DD or MM/DD/YYYY)
- Currency amounts can include dollar signs or be plain numbers
- Percentages can be decimals (0.30) or percentages (30%)

Missing Data:

- Some columns are optional - you'll still get insights even if some columns are missing
- More complete data = more detailed insights
- The system will tell you which packages are available based on your data

Pre-Validation (January 2025):

- The system validates data completeness before running analysis to prevent errors
- If required fields are missing, you'll see a clear error message with actionable suggestions
- The system uses flexible field matching (case-insensitive, keyword-based) to recognize your column names
- For example, if your Menu Cost Report has `UnitCost` instead of `Cost`, the system will still recognize it
- If validation fails, the system will explain what's missing and how to fix it (e.g., "Check your POS system export settings")

 Quick Reference: Package Requirements

Package	Minimum Required Reports
Menu Engineering	POS Sales Report (Menu Cost Report optional for enhanced insights)
Cost Optimization	Menu Cost Report (Waste Tracking Report optional for waste component)
Discount Loss Detector	POS Sales Report
Time-Based Behavioral Analysis	POS Sales Report
Financial Health Dashboard	POS Sales Report + Menu Cost Report (Labor Schedule/Payroll Report and Waste Tracking Report optional)
Historical Trend Analysis	Any reports from 4+ time periods (minimum 4, recommended 6+)

Need help? Our system automatically detects what data you have and shows you which packages are available. Start with what you have and add more reports over time to unlock additional insights!