

# Functional Requirements Document (FRD)

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Project: Food Delivery Analytics

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## 1. Purpose

To develop a data-driven dashboard using Power BI that tracks food inventory, consumption, deliveries, orders, and waste patterns across multiple hotel kitchens and restaurants. The system aims to reduce wastage, improve inventory efficiency, and enable data-backed purchasing decisions.

## 2. Functional Requirements

- FR1: Load and process datasets including inventory, consumption, delivery, and orders from CSV and Excel formats
- FR2: Display total food inventory, deliveries, and consumption by category (perishable/non-perishable)
- FR3: Show stock vs consumption vs delivery analysis by item and restaurant
- FR4: Visualize waste patterns by comparing stock consumed vs stock ordered
- FR5: Segment and filter data by restaurant, date, food type, and supplier
- FR6: Highlight underused or overstocked items using color-coded KPIs
- FR7: Generate trend charts for consumption and delivery over time
- FR8: Provide recommendations for reordering based on historical usage and current stock
- FR9: Allow export of summarized reports to Excel/PDF
- FR10: Display user-level access if needed for hotel admin vs kitchen managers

## 3. Data Requirements

- inventory\_data.csv: Opening stock, category, restaurant, and item-wise inventory data
- consumption\_data.csv: Daily or weekly consumption records by restaurant and item
- delivery.csv: Incoming deliveries from suppliers with date, item, quantity
- orders.csv: Orders placed to suppliers with status (fulfilled, pending)
- restaurants.csv: Metadata of hotel restaurants and locations
- users.csv: User info (roles, location, access level)

- Inventory\_and\_Consumption\_Data.csv: Consolidated data used for cross-verification or advanced analysis

#### **4. User Interface Requirements**

- Homepage Dashboard: Customer Behaviour & Trends
- Filter Panel: Restaurant, Date Range, Item Type, Supplier
- Tables: Detailed inventory and consumption records
- Interactive Graphs: Time series and delivery vs usage charts
- Download Button: Export filtered data or charts to Excel/PDF

#### **5. Reporting Requirements**

- Dashboard accessible via Power BI Service
- Exportable reports (inventory summary, waste analysis, top suppliers)
- Monthly trend report

#### **6. Integration Requirements**

Data is integrated manually via CSV/Excel upload (Power BI Desktop). Future integration with ERP systems via APIs is optional.

#### **7. Assumptions**

- All datasets are updated regularly and formatted correctly
- Restaurant managers will enter data consistently
- No missing critical values in datasets like quantity, dates, or IDs

#### **8. Constraints**

- Manual refresh unless Power BI Pro or Gateway is used
- Performance may degrade with high data volume without aggregation

#### **9. Acceptance Criteria**

- All charts load correctly with applied filters
- Users can download filtered data
- Low consumption triggers reorder suggestion
- Stock vs consumption mismatches are shown

#### **10. Glossary**

- KPI: Key Performance Indicator
- ETL: Extract, Transform, Load

- SKU: Stock Keeping Unit (item code)
- Power BI: Microsoft business intelligence tool