BUSINESS REQUIREMENTS DOCUMENT (BRD)

Retail Sales Analysis using SQL

---

1. Document Overview

Item	Details
Document Name	Business Requirements Document (BRD)
Project Title	Retail Sales Analysis using SQL
Prepared By	KOVID ANAND
Role Simulated	Business Analyst
Date	25.12.25

---

2. Executive Summary

This project aims to analyze historical retail sales data to generate **business-ready insights** that support decision-making across sales, finance, marketing, and inventory teams.

Instead of focusing only on SQL queries, the project follows a **business-first approach**:

1. Identify business problems
2. Translate them into measurable KPIs
3. Use SQL to compute and validate results

This mirrors how **real analytics projects are executed in companies**.

---

3. Business Problem Statement (Refined)

Retail leadership currently lacks:

- Visibility into sales performance across products and categories
- Clear KPIs to monitor business health
- Reliable metrics to track growth and customer behavior

As a result:

- Decisions are reactive instead of data-driven
- High-performing and under-performing products are not clearly identified
- Revenue optimization opportunities are missed

---

4. Business Objectives

Objective	Business Value
Measure total and periodic revenue	Track overall business performance
Identify top & low performing products	Improve product strategy
Analyze category-wise contribution	Optimize inventory and promotions
Track customer purchase behavior	Improve retention & targeting
Monitor sales trends	Support strategic planning

---

5. Stakeholder Analysis

Stakeholder	Interest	Decision Supported
Business Owner	Profitability	Strategic direction
Sales Manager	Sales growth	Sales planning
Finance Team	Revenue tracking	Financial reporting
Inventory Team	Stock movement	Inventory optimization
Data Analyst	Reporting	Dashboard & insights

---

6. Scope Definition

In Scope

- SQL-based analysis of retail sales data
- KPI calculation and validation

- Trend analysis (time-based)
- Product, category, and customer analysis

Out of Scope

- Predictive modeling
- Real-time streaming
- External market benchmarking

---

7. Data Understanding

The dataset contains transactional retail data including:

- Transaction ID
- Sale Date
- Product & Category
- Quantity Sold
- Unit Price
- Total Sales Amount
- Customer Identifier

Assumption:
Each row represents **one completed retail transaction**.

---

8. Business Questions → KPI → SQL Traceability

Business Question	KPI	SQL Logic Used
How much revenue is generated?	Total Sales Revenue	SUM(total_sales)
How many items are sold?	Total Quantity Sold	SUM(quantity)
How active are customers?	Number of Transactions	COUNT(transaction_id)
Which products perform best?	Top-Selling Products	GROUP BY product
Which categories drive revenue?	Sales by Category	GROUP BY category

Business Question	KPI	SQL Logic Used
Is the business growing?	Sales Growth Rate	Period comparison
How valuable is each order?	Average Order Value	Revenue / Transactions

---

9. Functional Requirements with Acceptance Criteria

FR-01: Calculate Total Sales Revenue

- **Description:** System should calculate total revenue from all transactions
- **Acceptance Criteria:**
    - Revenue matches sum of all transaction sales
    - No negative or null values included

FR-02: Identify Top-Selling Products

- **Description:** System should rank products by sales
- **Acceptance Criteria:**
    - Products correctly sorted by revenue
    - Results consistent across multiple runs

FR-03: Category-Wise Sales Analysis

- **Description:** System should calculate revenue per category
- **Acceptance Criteria:**
    - Category totals equal sum of product sales within category

---

FR-04: Time-Based Sales Trends

- **Description:** System should analyze sales by day/month/year
- **Acceptance Criteria:**
    - Time aggregation correctly reflects transaction dates

---

10. Non-Functional Requirements

- High data accuracy (>99%)
- SQL queries optimized for performance
- Output understandable to non-technical users
- Scalable for future data growth

---

11. Risk & Assumption Management

Risk	Mitigation
Missing or incorrect data	Data validation checks
Changing business definitions	KPI documentation
Data volume increase	Query optimization

---

12. Success Metrics

The project is successful if:

- KPIs align with business objectives
- Stakeholders can answer key business questions
- Insights are actionable
- SQL results are reproducible