# Requirements Gathering for Retail Store Inventory Forecasting Dataset

## 1. Stakeholder Analysis

Identifying key stakeholders and their needs:

* Retail Store Managers: Require accurate inventory forecasts to prevent overstocking or stockouts.
* Supply Chain Managers: Need demand predictions to optimize procurement and logistics.
* Sales & Marketing Teams: Use forecasts to plan promotions and sales strategies effectively.
* IT & Data Science Teams: Ensure data quality, model performance, and deployment feasibility.
* Customers: Indirectly benefit from improved stock availability and efficient service.

## 2. User Stories & Use Cases

Scenarios illustrating how users interact with the system:

* As a Retail Store Manager, I want to receive daily inventory forecasts so that I can restock products efficiently.
* As a Supply Chain Manager, I want to analyze historical sales trends to optimize procurement and reduce wastage.
* As a Sales Team Member, I want to see forecasted demand to plan discounts and promotions effectively.
* As a Data Scientist, I want to preprocess and clean data to enhance model accuracy and reliability.

## 3. Functional Requirements

Key features and functionalities:

* Data Ingestion: Ability to import historical sales data, promotions, and seasonal trends.
* Data Processing: Cleaning, handling missing values, and normalizing data.
* Forecasting Model: Implementation of time-series forecasting models such as ARIMA, SARIMA, or LSTM.
* Dashboard & Visualization: Interactive reports displaying sales trends and forecast accuracy.
* Automated Alerts: Notifications for potential stock shortages or surpluses.
* Integration: Seamless connection with existing inventory management and POS systems.

## 4. Non-functional Requirements

Performance, security, usability, and reliability criteria:

* Performance: The forecasting model should process and predict data within a defined time frame.
* Security: Data must be encrypted and access controlled for authorized users only.
* Usability: A user-friendly dashboard with intuitive navigation.
* Reliability: The system should be highly available and fault-tolerant.
* Scalability: Should support large datasets and handle multiple stores simultaneously.
* Compliance: Must adhere to data privacy laws and industry best practices.

This document serves as a foundation for implementing a Retail Store Inventory Forecasting solution using the provided dataset.