

# Project Plan Manual

## Time Series Analysis of U.S. Retail Clothing Market for Startup Market Entry

1<sup>st</sup> November 2024

### PROJECT OVERVIEW

The clothing startup, Trendline Apparel Co. is looking to gain deep insights into the U.S. retail clothing industry by analyzing sales data for men's and women's clothing from 1992 to 2020. This time series analysis will provide a clear understanding of market trends, seasonal behavior and economic impact on clothing retail performance, assisting the startup in making informed decisions on their market entry strategy.

### STAKEHOLDERS

#### External

Trendline Apparel Co. a clothing startup – The client seeking actionable insights to help them enter the U.S. market

#### Internal

Data Engineers – Responsible for extracting, cleaning, and preparing the data for analysis.

Data Analysts – Responsible for performing the time series analysis and generating insights.

Team Lead (Point of Contact) – Acts as the intermediary between the data team and the strategists to ensure that analysis aligns with business objectives.

Strategists – Use the insights to develop strategic recommendations for the startup's market entry and strategic decisions to thrive in the U.S. market.

PROJECT TIMELINE

Milestone	Description	Date	Responsibilities
Phase 1: Data Collection & ETL	Data Engineers extract and clean sales data for analysis.	2024-11-02 to 2024-11-08	@ data_engineer
Phase 2: Data Analysis	Data Analysts review dataset, set up the analysis.	2024-11-09 to 2024-11-12	@ data_analyst
Phase 3: Visualization and Reporting	Data Analyst sets the connection between SQL and visualization tools (Excel/PowerBI) and reports result in PPT format	2024-11-13 to 2024-11-19	@ data_analyst
Phase 4: Internal Review	Team lead reviews SQL scripts, analysis results visualizations	2024-11-20 to 2024-11-21	@ data_analyst @ team_lead
Phase 5: Final Report & Presentation	Final visualizations and PPT for the strategists	2024-11-22 to 2024-11-24	@ data_analyst @ team_lead @ strategist

PROJECT PHRASES & TASKS

Phase 1: Data Collection & ETL

Timeline: 2024-11-02 to 2024-11-08

- Tasks:
  - Data Engineers extract raw sales data from the US Census Bureau.
  - Data Engineers clean and transform the data into a structured, analysis-ready format.
  - Data Engineer load data into MSSQL database
- Deliverables:
  - Documentation of the ETL process for transparency.

## Phase 2: Data Analysis

Timeline: 2024-11-09 to 2024-11-12

- Tasks:
  - Data Analysts review the cleaned dataset for quality and completeness.
  - Perform time series analysis to identify trends, seasonality, growth patterns, and economic impact analysis for both men's and women's clothing.
- Deliverables:
  - SQL scripts for querying and analyzing the dataset.
  - An initial analysis report summarizing sales trends and patterns.

## Phase 3: Visualization & Reporting

Timeline: 2024-11-13 to 2024-11-19

- Tasks:
  - Data Analysts create connections between SQL queries and visualization tools (Excel/Power BI).
  - Generate visualizations to highlight key trends, seasonal behavior, and comparative sales performance.
  - Summarize insights related to market trends, seasonality, and consumer behavior.
- Deliverables:
  - Visualizations ready for inclusion in the PowerPoint presentation.
  - Detailed documentation of the analysis process and key findings.

## Phase 4: Internal Review

Timeline: 2024-11-20 to 2024-11-21

- Tasks:
  - Team Lead reviews SQL scripts, analysis results, visualizations, and documentation to ensure alignment with client objectives.
  - Provide feedback for refinements in visualizations and analysis.
- Deliverables:
  - Adjusted visualizations and analysis reports based on internal feedback.

## Phase 5: Final Report & Presentation

Timeline: 2024-11-22 to 2024-11-24

- Tasks:
  - Finalize visualizations and prepare the PowerPoint presentation for strategists.
  - Summarize key insights, actionable recommendations, and high-level findings.
- Deliverables:

- A professional PowerPoint presentation summarizing insights and recommendations.
- Final report with detailed findings and methodologies.

## **TOOL & TECHNOLOGIES**

- ETL: Python libraries for ETL of data.
- Data Analysis: SQL for querying and analyzing sales data.
- Version Control: GitHub for collaboration, version control, and documentation.
- Visualization Tools: Excel/Power BI for creating more advanced visualizations.
- Presentation Tools: PowerPoint for the final presentation.

## **RISK & MITIGATION**

### **1. Data Quality Issues:**

- Risk: Raw data may contain inconsistencies or missing values.
- Mitigation: Data engineers will conduct thorough data cleaning and validation to ensure data integrity.

### **2. Time Constraints:**

- Risk: The tight timeline may lead to rushed analysis or incomplete visualizations.
- Mitigation: Structured milestones and tracking will ensure timely completion and prevent bottlenecks.

### **3. Technical Issues:**

- Risk: Potential challenges with processing large datasets.
- Mitigation: Preprocess data in manageable chunks and optimize SQL queries to handle larger datasets efficiently.