1. **Project Title**

Sales and Customer Insights from a Liquor Store Dataset

1. **Executive Summary**

This project is based on a year’s worth of transaction data from a Liquor store. The objective is to analyze sales trends, customer behavior, and the impact of discounts to generate actionable insights that support data-driven decisions in retail operations and marketing.

1. **Business Objectives**

* Identify top-selling and low-performing product categories and brands.
* Analyze how customer age, gender, and payment method influence purchasing decisions.
* Understand sales distribution across days, months, holidays, and weather conditions.
* Measure the impact of discounts and promotional periods on revenue.
* Build visual dashboards to support strategic decisions in pricing and inventory planning.

1. **Scope of Work**

**In Scope:**

* Data cleaning, transformation, and exploratory analysis using Python
* Querying and summarizing sales patterns using SQL
* Building interactive dashboards and charts using Power BI
* Creating customer segments based on age, weekend sales, and purchase behavior
* Defining and Analyzing Performance KPIs
* Documenting business understanding through a Business Requirement Document (BRD) and relevant user stories

**Out of Scope:**

* Real-time data integration or automation
* Advanced Machine Learning or Predictive Modeling
* Integration with CRM or inventory systems

1. **Stakeholders**

| **Role** | **Responsibility** |
| --- | --- |
| Store Owner | Key decision makers are interested in understanding sales, customer trends, and improving profitability. |
| Operations Manager | Oversees inventory, supplier coordination, and in-store performance. Needs insights into low/high-performing products. |
| Marketing Lead | Plans, promotions, and seasonal campaigns based on sales and customer behavior. |
| Data Analyst (You) | Responsible for collecting, cleaning, analyzing the data, and presenting insights through reports and dashboards. |

1. **User Stories**

As a Store Owner, I want to know which product categories and brands perform best so I can stock them more efficiently

As a Store Owner, I want to track how discounts affect revenue to optimize future pricing strategies.

As a Marketing Lead, I want to understand which months and holidays generate the most sales so I can plan campaigns accordingly.

As an Operations Manager, I want to view monthly and weather-wise sales trends so I can align inventory with demand.

As a Store Owner, I want to see how customer demographics (age and gender) influence buying behavior to tailor promotions better.

1. **Requirements**

**Functional Requirements:**

* The system should calculate KPIs such as total revenue, revenue per unit, and average discount impact
* The dashboard should allow filtering by category, brand, month, holiday, and weather.
* The analysis should segment customers by age groups and purchasing patterns.
* • SQL queries should support business questions such as top categories per month, holiday impact, and discount analysis.

**Non-Functional Requirements:**

* The report should be easily understandable for non-technical stakeholders.
* The data processing script should handle at least 1,000 transactions without failure.
* The design should follow a clean, business-friendly layout.

1. **Assumptions**

* Transaction data for the entire year is complete, accurate, and reflects actual sales.
* Customer demographics(age/gender) are correctly recorded at the point of sale.
* Discount values represent promotional activities or pricing strategies used by the store.

1. **Constraints**

* Data is limited to a single location; no multiple-location comparison is possible.
* Real-time updates and integration with CRM systems are out of scope.

1. **Dependencies**

* Availability of the cleaned dataset with accurate transaction details.
* Access to Power BI and Python tools for analysis and visualization.

1. **Success Metrics**

| **Metric** | **Target** |
| --- | --- |
| Increase in visibility of top-performing products | Generate a list of the top 5 brands per category |
| Insights on discount performance | Measure discount rate vs. net revenue impact |
| Clarity in customer segmentation | Group customers into at least 4 meaningful segments |
| Dashboard usability | Stakeholders can make at least 3 strategic decisions based on visual reports |
| Report delivery | Completed Python, SQL, and Power BI insights within the project timeframe |