Business Requirements Document (BRD)

1. Business Problem

The mall management currently struggles to understand the diverse customer profiles visiting the mall. This lack of insight results in untargeted and ineffective marketing strategies, leading to suboptimal customer satisfaction and sales performance.

2. Business Objectives

The primary objectives of this project are to:

- Segment customers into distinct groups based on their purchasing behavior and demographics.
- Enhance targeted marketing strategies for each customer segment.
- Improve overall customer satisfaction and increase sales.

3. Functional Requirements

3.1 Data Collection

- Gather relevant customer data, including demographics (age, gender, income) and purchasing behavior (spending scores, purchase history).
- Ensure the data is clean, accurate, and scaled using Min-Max Scaling.

3.2 Data Analysis

- Conduct exploratory data analysis (EDA) to understand data distribution and relationships.
- Use clustering algorithms (e.g., K-means) to segment customers into distinct groups.

3.3 Visualization

- Develop intuitive and interactive visualizations to represent customer segments.
- Use dashboards to display key metrics and insights for each segment.

3.4 Reporting

- Generate detailed reports outlining the characteristics of each customer segment.
- Provide actionable recommendations for targeted marketing strategies based on the segments.

4. Non-functional Requirements

4.1 Performance
- Ensure the system can handle large datasets efficiently.
- Optimize analysis and visualization processes for speed and accuracy.

4.2 Scalability
- Design the solution to be scalable to accommodate increasing volumes of customer data over time.
- Ensure the system can integrate with other data sources and marketing platforms as needed.

4.3 Usability
- Create an intuitive and easy-to-navigate user interface for non-technical users.
- Provide comprehensive documentation and user training to ensure effective system use.