Data Analyst Project – Business Problem Document

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This document presents a refined version of the business problem analysis, originally drafted for Power BI and SQL-based project documentation. The language has been enhanced for professional readability and clarity.

Business Problem Statement

A leading retail organization aims to gain deeper insights into its customers' shopping behavior to enhance overall sales performance, customer satisfaction, and brand loyalty. Recently, the management team has observed noticeable shifts in purchasing habits across different demographics, product categories, and sales channels (both online and offline).

The company wants to uncover which key factors — such as discounts, customer reviews, seasonal trends, and payment preferences — have the greatest influence on purchase decisions and repeat buying patterns.

As a data analyst, your task is to explore and analyze the company's consumer dataset to address the following central question:

"How can the organization use customer shopping data to identify patterns, strengthen engagement, and optimize both marketing and product strategies?"

Deliverables

1. Data Cleaning & Modeling (**Python**): Prepare and structure the raw dataset for analysis by handling missing values, formatting fields, and creating relevant features for exploration.
2. Data Exploration & Insights (**SQL**): Build structured tables, simulate realistic business transactions, and write SQL queries to uncover customer segments, loyalty levels, and purchase behaviors.
3. Interactive Dashboard (**Power BI**): Design a dynamic and visually engaging dashboard to highlight major sales trends, customer demographics, and behavioral insights for decision-makers.
4. Comprehensive Report & Presentation: Summarize your findings, visualize trends, and provide clear recommendations that guide business and marketing decisions.
5. Project Repository (**GitHub**): Maintain all project assets — Python scripts, SQL queries, and Power BI files — in a well-organized GitHub repository to demonstrate workflow and transparency.