Data Analyst Internship – End-to-End Project Portfolio

Apex Planet Data Analytics Internship.
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Internship Overview

- Objective of the internship was to gain hands-on experience in **end-to-end data analytics.**
- Worked with a **real-world transactional dataset** to simulate business scenarios
- Focused on **data quality assessment, exploratory analysis, SQL-based insights, and data storytelling**
- Emphasis on converting raw data into **actionable business insights**

Task 1: Data Immersion & Wrangling

- Gained a clear understanding of the dataset structure and variables
- Created a **data dictionary** documenting column meaning, data types, and relevance
- Performed initial data profiling to identify data quality issues

Key Issues Identified:

- Missing values in key columns
- Invalid and inconsistent date formats
- Inconsistent categorical values
- Potential duplicate records

Data Cleaning & Preparation Results

- Standardized all date fields into a consistent format
- Corrected and validated total transaction amounts
- Cleaned and standardized categorical fields such as country and payment mode
- Ensured no duplicate records remained
- Produced a **clean, structured, and analysis-ready dataset**

Task 2 – Exploratory Data Analysis (EDA)

Exploratory Data Analysis (EDA)

- Conducted EDA to understand data patterns and distributions
- Focused primarily on **univariate analysis** to examine individual variable

Key Areas Explored:

- Customer demographic distribution
- Product category demand
- Revenue contribution patterns
- Customer payment preferences

Key Visualizations

Key Visual Insights

Customer Age Distribution

- Majority of customers fall within a specific age range, indicating the primary target demographic

Orders by Product Category

- Certain product categories show significantly higher order volumes, indicating strong customer demand

Revenue & Trend Analysis

Revenue by Product Category

- Identified product categories contributing the highest revenue
- Useful for inventory and marketing prioritization

Monthly Sales Trend

- Revealed variations in sales across months
- Indicates possible seasonal trends impacting revenue

Task 3 – SQL Analysis

SQL-Based Analysis

- Used SQL queries to extract structured insights from the dataset
- Applied aggregations, filtering, and grouping operations

Insights Generated Using SQL:

- Total revenue calculations
- Revenue and order analysis by product category
- Time-based summaries for sales performance

Task 4 – Data Storytelling

Data Storytelling & Business Insights

- Framed business questions based on analytical findings
- Connected results from EDA and SQL analysis into a coherent narrative

Key Focus Areas:

- What the data reveals about customer behavior
- Why these insights are important for business decisions
- How data-driven insights can support strategic planning

Key Learnings & Skills

Technical Skills Gained

- Python (Pandas, Matplotlib, Seaborn)
- SQL for data analysis
- Data Cleaning and Preparation
- Exploratory Data Analysis (EDA)
- Data Visualization

Professional Skills Developed

- Analytical and problem-solving thinking
- Communicating insights clearly

THANK YOU