Internship Report

Sales Dashboard using Google Looker

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1. Introduction

This report summarizes my work on the **Sales Dashboard using Google Looker** as part of the internship project assigned by NullClass Training. The project involved data manipulation using Jupyter Notebook and visualization using Google Looker. The goal was to analyze and visualize sales data to extract meaningful insights.

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2. Project Scope and Objectives

The primary objectives of this project were:

1. **Data Processing in Jupyter Notebook:**
    - Fetching and manipulating data from a **MySQL database**.
    - Using **Pandas, NumPy, and Scikit-Learn** to process data.
    - Implementing a **sales prediction model** using a **Random Forest Regressor**.
2. **Visualization in Google Looker:**
    - Creating a **bar chart comparing total revenue before and after discounts** for different product categories.
    - Visualizing **discount impact** as a separate bar chart.
    - Presenting both charts in a single dashboard for better insights.
3. **Documentation and Submission:**
    - Uploading the Jupyter Notebook to **GitHub**.
    - Providing a **Google Looker dashboard link** in the GitHub repository.
    - Submitting the internship report along with the project files.

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3. Data Processing in Jupyter Notebook

- Connected to **MySQL database** using mysql-connector-python.
- Executed SQL queries to retrieve sales data.
- Aggregated and preprocessed data for analysis.
- Implemented **time-series forecasting** for sales prediction using **Random Forest Regressor**.
- Evaluated model performance using **Mean Absolute Error (MAE)** and **Root Mean Squared Error (RMSE)**.

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4. Visualizations in Google Looker

- **Chart 1: Total Revenue Before vs. After Discount**
    - **Chart Type:** Column Chart
    - **Dimensions:** Product Category
    - **Metrics:** Total Revenue Before Discount, Total Revenue After Discount
    - **Purpose:** To analyze how discounts affect sales revenue.
- **Chart 2: Discount Impact on Revenue**
    - **Chart Type:** Column Chart
    - **Dimensions:** Product Category
    - **Metrics:** Discount Impact (Revenue Before - Revenue After)
    - **Purpose:** To highlight how much revenue is reduced due to discounts across categories.
- **Final Dashboard:** Both charts were combined into a single page for better visualization.

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5. Submission Details

- **GitHub Repository Link:** [Insert GitHub Repo Link Here]
- **Google Looker Dashboard Link:** [Insert Google Looker Link Here]

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6. Conclusion

This internship provided hands-on experience in working with **SQL, Python (Pandas, NumPy, Scikit-Learn), and Google Looker** for real-world data analysis and visualization. The project enhanced my ability to extract insights from sales data and create meaningful dashboards.

This report, along with the GitHub repository and Google Looker link, completes my project submission as per the internship requirements.