Sales Dashboard in Google Looker Studio

1. Introduction

This report documents the development of a **Sales Analytics Dashboard** in **Google Looker Studio** to provide insights into sales performance, customer segmentation, and discount strategies. The dashboard integrates multiple tasks, including **product ranking, sales forecasting, and trend analysis**, to support data-driven decision-making.

2. Project Objectives

- Develop an **interactive dashboard** for real-time sales monitoring.
- Implement **predictive modeling** for sales forecasting.
- Segment customers based on **net profit contribution**.
- Analyze **monthly sales trends and discount impacts**.

3. Tasks & Implementation

3.1 Top 5 Best-Selling Products (Mobiles & Tablets, 2022)

📌 **Objective:** Identify the **top 5 products** based on sales volume.
📌 **Implementation:**

- **Filtered** 2022 sales data (`category = Mobiles & Tablets`, `is_valid = 1`).
- **Aggregated & Ranked** sales using `SUM(qty_ordered)`.
- **Visualized** via **horizontal bar chart + scorecards**.
  📌 **Insight:** Key products identified for **inventory planning & marketing focus**.

3.2 Sales Forecast for Q2 2023

📌 **Objective:** Predict Q2 2023 sales using historical data.
📌 **Implementation:**

- **Aggregated** monthly sales data (2022).
- **Built a Linear Regression model** in Google Colab.
- **Visualized predictions** with a **line chart** in Looker Studio.
  📌 **Insight:** Enabled **demand forecasting & data-driven decision-making**.

3.3 Customer Segmentation (Net Profit-Based)

📌 **Objective:** Classify customers as **Low, Medium, or High profit**.
📌 **Implementation:**

- **Calculated Net Profit:** `SUM(after_discount) - SUM(cogs)`.
- **Segmented Customers:** Using **CASE statement**.
- **Visualized** with **pie chart + detailed table**.
  📌 **Insight:** Identified **high-value customers for personalized marketing**.

3.4 Monthly Sales Growth vs. Discount Rate Analysis

📌 **Objective:** Track sales growth trends vs. discount impact.
📌 **Implementation:**

- **Calculated Sales Growth (%):** `(Current Month Sales - Previous Month Sales) / Previous Month Sales`.
- **Calculated Discount Rate:** `SUM(discount_amount) / SUM(before_discount)`.
- **Visualized** via **combo chart (bars for sales growth, line for discount rate)**.
  📌 **Insight:** Helped optimize **pricing & promotional strategies**.

4. Key Learnings & Takeaways

- **Advanced Data Visualization:** Created **interactive dashboards** using **Google Looker Studio** with calculated fields, filters, and scorecards.
- **Predictive Analytics:** Developed **machine learning models** in Google Colab to forecast future sales trends.
- **Data-Driven Decision Making:** Gained insights into **customer segmentation, sales trends, and discount effectiveness**.
- **Business Intelligence Skills:** Strengthened **data analysis, reporting, and visualization techniques** to support strategic planning.

5. Project Links

- **Google Looker Studio Dashboard:** Check Here
- **Google Colab Notebook:** Check Here
- **Sales Dashboard Website link :** Check Here

6. Conclusion

The **Sales Analytics Dashboard** successfully integrates **real-time monitoring, predictive insights, and strategic recommendations** into a single, interactive platform. This project enhanced **technical expertise in data analytics** while delivering valuable insights for business growth

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