# Final Project Report

**Retail Sales Data Analysis & Dashboard**

**Business Analytics Boot camp — Course Mea**  
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**Objective**

The goal of this capstone project was to apply key Business Analytics techniques by performing an **end-to-end analysis** on a retail sales dataset. This included data cleaning and exploration using **Python**, and building an interactive **Power BI dashboard** to deliver insights for business decision-making.

**Tools Used**

* **Python** (Pandas, Seaborn, Matplotlib) for EDA
* **Power BI** for visualization and dashboard building
* **GitHub & Google Drive** for project submission
* **LinkedIn** for project sharing and professional visibility

**Dataset Summary**

* Source: [Retail Sales Dataset on Kaggle](https://www.kaggle.com/datasets/mohammadtalib786/retail-sales-dataset)
* Rows: 1,000 retail transactions
* Key columns: Date, Age, Gender, Product Category, Quantity, Total Amount

Additional columns created:

* Month for time-series analysis
* Age Group for segmentation insights

**Methodology**

**✅ Step 1: Data Cleaning in Python**

* Checked and confirmed no missing or duplicate records
* Converted date fields and created additional fields for Month and Age Group

**✅ Step 2: Exploratory Data Analysis**

* Analyzed sales trends by time, product category, age group, and gender
* Visualized insights using line charts, bar plots, and pie charts in Python

**✅ Step 3: Power BI Dashboard**

* Created a professional dashboard with the following visuals:
  + KPIs: Total Sales, Quantity Sold
  + Line Chart: Monthly Sales Trend
  + Pie Chart: Gender-based Sales Distribution
  + Column Chart: Sales by Age Group
  + Bar Chart: Product Category Performance
  + Slicers for interactive filtering by Month and Product Category

**📊 Key Insights**

* 📈 **Sales peaked during mid-year months**, indicating seasonal trends.
* 👗 **Clothing** was the highest performing product category.
* 🧍‍♀️ **Female customers** contributed slightly more to total sales.
* 👥 Customers aged **26–45** were the most active buyers.

## Conclusion

This project demonstrated an end-to-end analytics workflow — from raw data to business insights — using real-world tools. It sharpened practical skills in Python and Power BI and delivered a visual, insightful dashboard that could aid business decisions.

I’m grateful to Course Mea for providing the opportunity to build and showcase this hands-on analytics project.

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GitHub : https://github.com/shakirhussain128/CourseMea-Retail-Analytics-Final-Project