THE YENEPOYA INSTITUTE OF ARTS SCIENCE COMMERCE AND MANAGEMENT

(a constituent unit of Yenepoya Deemed to be University) Balmatta, Mangalore.

BUSINESS PERFORMANCE DASHBOARD FOR SALES DATA

PROJECT SYNOPSIS

BACHELOR OF COMPUTER APPLICATIONS

Cyber Forensic, Data Analytics and Cyber Security with IBM

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Introduction

In today's fast-paced business environment, data-driven decision-making is essential. Businesses generate large volumes of data daily—from customer orders to regional sales patterns—and making sense of this data can significantly improve strategic planning.

Our project titled "Business Performance Dashboard for Sales Data" aims to transform raw sales records into meaningful insights through visual analytics. Using Python for preprocessing and Power BI for interactive reporting, we analyze a dataset of 100 sales records that includes order details, revenue, profit, customer information, product category, region, and more.

We focus on uncovering trends in sales, profitability, and customer behavior across different regions and products. The outcome is a real-time, user-friendly dashboard that provides an instant view of business performance and highlights areas needing attention.

This project bridges the gap between raw data and strategic decision-making by making information accessible, visual, and actionable for business teams.

Methodology / Planning of Work

The project will proceed as follows:

- **Data Collection & Cleaning**
  - Used a public dataset named "100 Sales Records.csv"
  - Removed duplicates and handled missing values using Pandas
- **Exploratory Data Analysis (EDA)**
  - Analyzed revenue trends over time
  - Identified top regions and products using bar plots and aggregation
- **Dashboard Creation**
  - Created real-time interactive visualizations for:
    - Revenue trends (line plots and moving averages)
    - Profit margin by region
    - Sales by product category
    - Top orders and units sold
- **Visualization & Reporting**
  - Used Seaborn, Matplotlib for initial EDA plots
  - Created a dashboard using Power BI for professional reporting
- **Insights & Recommendations**
  - Suggested improvement areas based on regional and product-level sales
  - Recommended focusing on high-margin products and peak sales periods

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Facilities Required for Proposed Work

To successfully complete this project, we utilized the following tools and technologies:

- **Data Collection**: Pre-cleaned public dataset in CSV format
- **Data Analysis**: Python (Pandas, NumPy, Seaborn, Matplotlib)
- **Visualization and Reporting**: Power BI, Plotly
- **Development Environment**: PyCharm
- **Documentation and Reporting**: MS Word, PowerPoint

- **Expected Outcomes:**

- An interactive dashboard that showcases business performance metrics in real time.
- Clear visualization of top-performing products, regions, and trends over time.
- A detailed report on sales, revenue, profit, and customer behavior patterns.
- Actionable insights to help improve sales strategy, marketing focus, and customer retention.

Conclusion:

The *Business Performance Dashboard for Sales Data* project demonstrates the power of combining Python and business intelligence tools to make data insightful and decision-oriented. The real-time dashboard we created helps stakeholders monitor KPIs, recognize trends, and adapt to changing market conditions effectively.

By turning static data into interactive visualizations, this project supports informed decision-making and builds a foundation for more advanced business analytics in future endeavors.