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# THE YENEPOYA INSTITUTE OF ARTS SCIENCE COMMERCE AND MANAGEMENT

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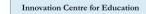
Balmatta, Mangalore

# SALES PERFORMANCE ANALYSIS

#### **PROJECT SYNOPSIS**

Sales Performance Analysis

BCA Cyber Forensic Data Analytics & Cybersecurity COMPUTER SCIENCE



IBM



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#### 1.Indroduction

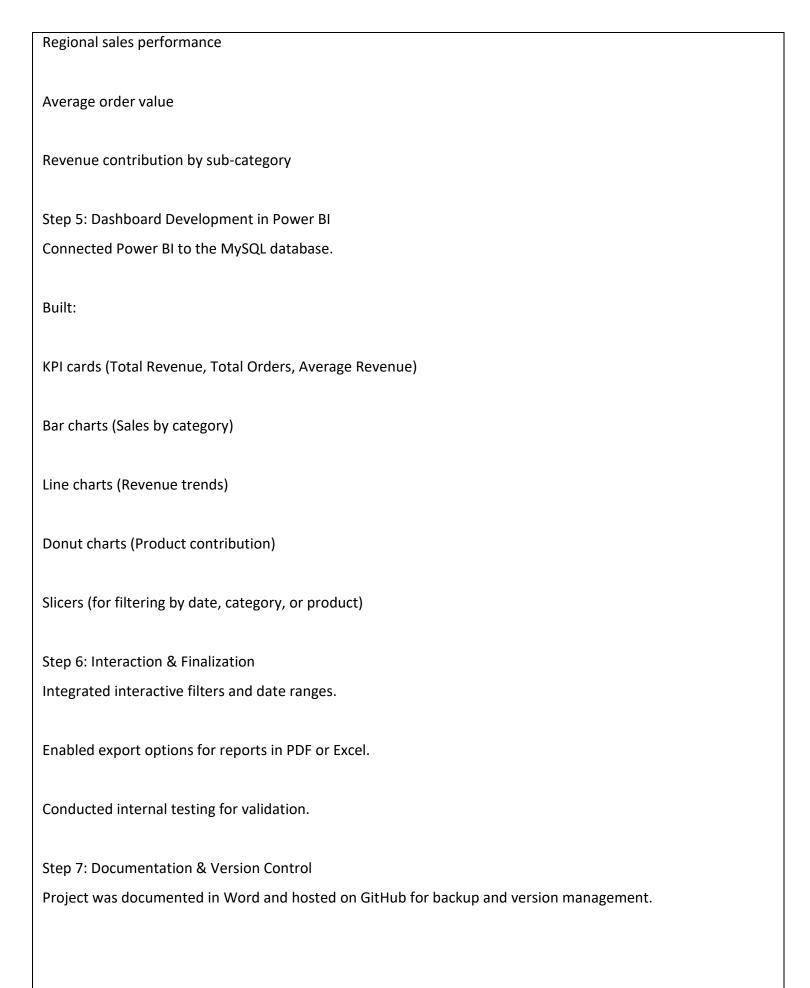
The Retail Sales Performance Analysis project aims to analyze and visualize sales data from a retail store environment using business intelligence tools. The goal is to convert raw, unstructured retail transaction data into actionable insights that can help improve operational efficiency, understand consumer behavior, and boost profitability.

The dataset used includes transactional details such as order dates, product types, product categories, prices, and quantities sold. Initially, data preprocessing was conducted using Microsoft Excel to ensure data cleanliness and consistency. Tasks included null handling, standardizing headers, and creating new columns like total\_price, hour, and day\_of\_week for deeper analysis.

The structured data was then stored in a MySQL database, enabling efficient querying and analysis using SQL. From there, Power BI was used to create interactive dashboards featuring KPIs, visual charts, and slicers that enable stakeholders to dynamically explore performance metrics across dimensions such as category, time, and region.

This project simulates a real-world business analytics pipeline, showcasing the integration of cleaning, storage, querying, and visualization. It offers a hands-on experience in building a decision-support system for retail businesses, especially small to mid-sized enterprises.

2. Methodology / Planning of Work
The methodology followed a clear, staged approach, aligning with typical data analytics lifecycles:
Step 1: Data Collection
The dataset was sourced from Kaggle and represents anonymized retail sales data.
Attributes included: Order ID, Product Name, Category, Sub-Category, Quantity, Price, Order Date, and Customer Location.
Step 2: Data Cleaning and Preprocessing (Excel)
Removed missing or duplicate entries.
Standardized column headers and date formats.
Created calculated columns: Total Revenue (Quantity × Price), Order Hour, Weekday, and Month.
Step 3: Structuring Data in MySQL
Imported the cleaned dataset into MySQL.
Created tables with primary and foreign key relationships to ensure data integrity.
Designed schemas for orders, products, and summary tables.
Chan A. COL Analysis
Step 4: SQL Analysis
Executed queries to derive:
Monthly revenue
Monthly revenue
Best-selling product categories



### 3. Facilities Required for Proposed Work

To implement the project effectively, the following resources were necessary:

**Software Requirements** 

Microsoft Excel 2019+: For initial cleaning and transformation of data.

MySQL Workbench: For structuring and querying datasets.

Power BI Desktop: For creating rich, dynamic dashboards.

GitHub: For hosting project files, code snippets, and reports.

Python (optional): For future automation or data enhancement tasks.

**Hardware Requirements** 

Windows PC/Laptop with the following minimum specs:

Processor: Intel Core i5 (or equivalent)

RAM: 8 GB

Storage: 1 GB free disk space

OS: Windows 10/11

Display: 1366×768 or higher

**Additional Requirements** 

Stable internet connection for:

Downloading tools

Syncing with GitHub
Accessing Power BI features
Access to online documentation and support forums
Continuous guidance from academic mentors and subject experts
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4. References
Kaggle – Source of retail datasets
Microsoft Power BI Docs – Official BI tool documentation
MySQL Documentation – Reference for SQL syntax and data structuring
GitHub – For source control and project sharing
Python Docs – Future extensibility and scripting support
Analytics Vidhya – Learning platform for analytics and data science



