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Swiggy Restaurant Performance Dashboard

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Abstract: *This paper presents the design and architectural approach of a Power BI-based data analytics system that evaluates the performance of restaurants listed on Swiggy. The model integrates restaurant data such as orders, ratings, delivery time, and revenue, and processes it through data collection, cleaning, transformation, and visualization layers. The system architecture ensures accurate representation of restaurant performance across various metrics. The proposed framework highlights how effective data visualization can assist restaurant owners and analysts in improving operational efficiency and decision- making.*

Keywords: Data Analytics, Power BI, Swiggy, Restaurant Performance, Data Visualization, Food Delivery Analytics, Business Intelligence, Data Integration

I. INTRODUCTION

The rapid growth of online food delivery platforms like Swiggy has generated a large amount of data related to restaurant performance, customer behavior, and order trends. Analyzing this data is essential for improving service quality and business outcomes. However, raw data is often complex and difficult to interpret without proper tools. This paper aims to design a unified analytical framework that collects, processes, and visualizes Swiggy restaurant data using Power BI. The dashboard provides insights into key performance indicators such as total orders, revenue, customer ratings, and delivery efficiency. By integrating and visualizing these metrics on a single platform, the system helps stakeholders make informed decisions and improve overall performance.

II. SYSTEM DESIGN

The system design focuses on building an efficient, modular, and scalable architecture. The overall system is divided into multiple layers, including:

• Data Collection Layer: Responsible for gathering Swiggy restaurant data from datasets and storing them in CSV format.

• Data Cleaning Layer: Handles missing values, removes duplicate records, and standardizes data formats for consistency.

• Data Transformation Layer: Converts raw data into structured formats and creates calculated fields such as total revenue, average rating, and order frequency.

• Computation Layer: Processes transformed data to calculate key performance indicators (KPIs) like total orders, delivery time, and restaurant rankings.

• Visualization Layer: Displays interactive dashboards in Power BI, representing restaurant performance, trends, and comparisons.

III. METHODOLOGY

Python was used for data preprocessing, including cleaning and transformation of the dataset. Excel/CSV files were used as the primary data source. After preprocessing, the dataset was imported into Power BI where interactive dashboards were created. Key performance indicators (KPIs) such as total orders, average rating, revenue, and delivery

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time were visualized using charts like bar graphs, pie charts, and line graphs. Filters and slicers were added to enhance user interaction and enable detailed analysis.

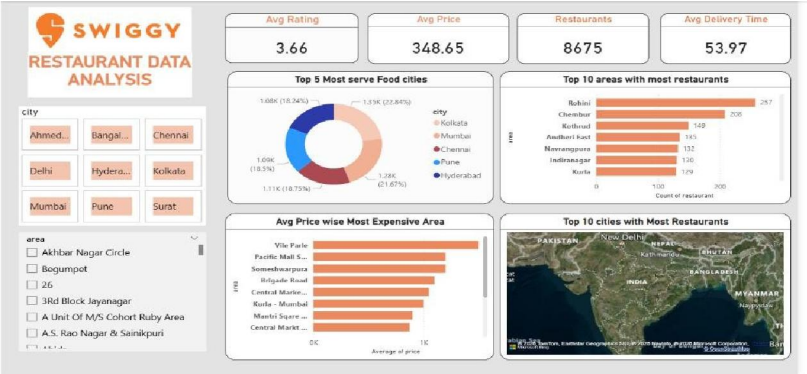

Fig. 1. System Architecture for Swiggy Restaurant Performance

IV. RESULT AND DISCUSSION

The Power BI dashboard provided clear insights into restaurant performance and customer behavior. High-performing restaurants were identified based on ratings and revenue, while areas with lower performance were also highlighted. The dashboard enabled comparison of different restaurants, cuisines, and locations. It also helped in understanding order trends and peak demand periods. The visual representation made it easier for users to interpret complex data and take appropriate action s.

Fig. 2. Power BI Dashboard Displaying Swiggy Restaurant Performance

V. CONCLUSION

This paper successfully demonstrates how Power BI can be used to analyze and visualize Swiggy restaurant data effectively. The proposed system provides a structured approach for data processing and interactive visualization. The dashboard improves decision- making by offering clear insights into key performance metrics. Future work may include the integration of machine learning models for predicting customer demand and enhancing recommendation systems.

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