SWIGGY DATA ANALYSIS USING POWER BI

A minor project report submitted to

DEPARTMENT OF

CSE(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

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DECLARATION

I **VANKAYALA DILIP DATTA SAI (21MQ1A4256)** declared that the dissertation report entitled **"SWIGGY DATA ANALYSIS"** is no more than 1,00,000 words in length including quotes and exclusive of tables, figures, bibliography, and references. This dissertation contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated this dissertation in our own work.

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ABSTRACT

In today's competitive food delivery landscape, data analysis plays a crucial role in understanding customer preferences, optimizing delivery operations, and enhancing user experience. This project delves into the analysis of Swiggy's dataset, focusing on key metrics such as order volume, delivery time, peak ordering hours, and customer preferences. By utilizing data analysis tools and techniques, this project aims to uncover patterns that can inform Swiggy's business decisions, streamline operations, and improve customer satisfaction.

PROBLEM STATEMENT

Design and implement a comprehensive data analysis dashboard in Power BI that provides insights into key financial metrics such as ratings, delivery time, average price. The goal of this project is to conduct a comprehensive data analysis of Swiggy's operations to uncover patterns in customer behavior, delivery efficiency, and order trends.

FEASIBILITY STUDY

Power BI Capability Evaluation:
The feasibility study evaluates the practicality of the Swiggy Data Analysis project by assessing the required resources, potential risks, and expected benefits. It aims to ensure that the project can be completed successfully within the given constraints.

Technical Feasibility:

- **Data Sources**: Evaluate the availability and quality of the dataset required for analysis, including order data, delivery times, and customer feedback. Identify the sources of data (e.g., internal databases, APIs) and ensure they are accessible.

Resource Feasibility:

- **Human Resources**: Identify the skills required for the project, including data analysis, programming, and visualization expertise. Determine if the current team has the necessary skills or if training or hiring is needed.

Economic Feasibility:

- **Cost-Benefit Analysis**: Estimate the costs associated with the project, including software licenses, development time, and any additional resources needed. Compare these costs against the expected benefits, such as improved operational efficiency and increased customer satisfaction.
- **Return on Investment (ROI)**: Analyze how the insights gained from the project can lead to financial benefits, such as reduced delivery times, increased order volumes, and better customer retention.

Operational Feasibility:

- **Integration with Current Systems**: Evaluate how the analysis will integrate with Swiggy's existing operations and systems. Consider the impact on current workflows and processes.
- **Stakeholder Support**: Assess the level of support and buy-in from key stakeholders, including management, operations, and marketing teams. Effective communication about the project's goals and benefits is crucial for its success.

Risk Assessment:

- **Identify Potential Risks**: Highlight risks such as data security concerns, integration challenges, or resistance to adopting new insights.
- **Mitigation Strategies**: Develop strategies to address identified risks, ensuring the project can proceed smoothly.

Timeline and Implementation Plan:

- **Project Timeline**: Create a timeline that outlines key milestones, including data collection, analysis, and reporting.
- **Implementation Plan**: Define the steps necessary to execute the project, allocate resources, and establish responsibilities within the team.

Conclusion and Recommendations:
Summarize the findings of the feasibility study, concluding whether the project is viable based on the evaluations conducted. If deemed feasible, outline the next steps for project initiation

CHAPTER 1

1. INTRODUCTION

In the fast-paced world of online food delivery, Swiggy has become a leader by offering a vast range of restaurant options, convenience, and quick delivery services. As competition in the food delivery industry intensifies, Swiggy's ability to analyze and leverage its data has become crucial for maintaining its competitive advantage. The need to understand customer preferences, optimize delivery times, and streamline operations has never been more critical.

Through this analysis, Swiggy can gain insights into critical factors affecting customer satisfaction, improve operational efficiency, and develop targeted strategies to enhance service quality. With Power BI as the analysis platform, Swiggy is empowered to make data-driven decisions that align with its goals for continuous improvement and customer-centric innovation.

CHAPTER 2

2. MOTIVATION & OBJECTIVE

The objectives of swiggy data analysis are to assess valuable insights into its operations and customer base, positioning the company to better serve its customers while optimizing its resources.

2.1 MOTIVATION

- Data-Driven Decision Making
- Visibility and Transparency
- Efficiency and Automation
- Real-time Insights
- Scalability and Flexibility

2.2 OBJECTIVE

- Monitor Financial Performance
- Identify Trends and Patterns
- Optimize Resource Allocation
- Support Strategic Planning
- Improve Forecasting and Prediction

CHAPTER 3

3 SOFTWARE & HARDWARE REQURIMENTS

3.1 SOFTWARE REQURIMENTS

Operating System **:** Windows 11 Home Single Language
Platform : Microsoft Power Bi Desktop

Modules **:** Own Modules created by the programmer for the basedon the management system to develop both Window and Web Application.

3.2 HARDWARE REQURIMENTS

Processor **:** 11th Gen Intel(R) Core(TM) i5-1135G7 @ 2.40GHz
RAM **:** 8.00GB
Version **:** 23H2

CHAPTER 4

KEYWORDS & DEFINITIONS

4.1 KEYWORDS

Data analysis involves examining various analytical statements and metrics to assess the performance,stability, and viability of a company. Here are some key terms and their definitions:

Customer Preferences: Trends and patterns in customer choices, such as popular cuisines, ordering times, and frequently ordered items, which help businesses understand customer behavior.

Order Volume: The total number of orders placed over a specified period, indicating demand levels and helping to identify peak times and low-demand periods.

Delivery Efficiency: A measure of how effectively Swiggy completes deliveries within estimated times, impacting customer satisfaction and operational costs.

Power BI: A Microsoft business intelligence tool used for data visualization and analysis, allowing for the creation of interactive dashboards and visual reports.

Interactive Dashboards: Visual interfaces created in Power BI that allow users to filter, sort, and analyze data dynamically, making insights easily accessible and understandable.

Data-Driven Decision Making: A process where insights derived from data analysis inform strategic and operational decisions, leading to more objective and effective outcomes.

Delivery Time Analysis: The examination of data related to delivery times, identifying factors that affect timely delivery and areas for improvement.

Customer Satisfaction: A metric that reflects the degree to which Swiggy's services meet or exceed customer expectations, influenced by factors such as delivery speed, order accuracy, and product quality.

Resource Allocation: The process of managing and distributing resources, such as delivery personnel and vehicles, to meet demand efficiently, especially during peak times.

Data Visualization: The graphical representation of data through charts, graphs, and dashboards, making complex data easier to understand and analyze.

Trend Analysis: The practice of analyzing data over time to identify consistent patterns, used to forecast demand and improve service.

Food Category Analysis: Identifying the popularity of different food categories (e.g., fast food, desserts, healthy options) based on order data, useful for menu optimization and targeted marketing.

Key Performance Indicators (KPIs): Specific metrics used to measure and assess Swiggy's performance, such as average delivery time, customer retention rate, and order volume.

4.2DEFINITIONS

Swiggy Data Analysis involves examining Swiggy's vast datasets to extract meaningful insights into customer behavior, operational efficiency, and market trends. By analyzing data on order volume, delivery times, popular cuisines, and peak demand periods, Swiggy can identify patterns that enhance service quality and customer satisfaction. This analysis uses Power BI to visualize data through interactive dashboards, enabling Swiggy's teams to explore and interpret insights easily.

With insights from this analysis, Swiggy can better allocate delivery resources, streamline operations during peak hours, and tailor marketing strategies to customer preferences. This data-driven approach not only enhances operational efficiency but also positions Swiggy to meet evolving customer expectations, providing a foundation for continuous improvement in the competitive food delivery industry.

CHAPTER 5

5.1DESIGINING

Cleanse, transform, and model the data to create a unified dataset suitable for analysis.

This may involve restructuring data, resolving inconsistencies, and creating calculated columns or measures.

Identify and connect relevant data sources to Power BI, including databases, spreadsheets,and external sources.

Ensure data accuracy, completeness, and consistency.

5.2PROPOSED SYSTEM

Design a user-friendly dashboard layout with logical organization, clear navigation, and consistent branding.

Select appropriate visualizations (e.g., charts, graphs, KPIs) to represent financial metrics effectively and facilitate data exploration.

Enable interactivity with slicers, filters, and drill-down capabilities to empower users to interactively analyzeand explore financial data

CHAPTER 6

METHODOLOGY

Define Objectives:
Clearly define the objectives of the data analysis, including the specific analytical metrics, KPIs, and insights stakeholders require.

Data Gathering:
Identify and gather relevant analysis data from internal and external sources, such as datasets, ERP systems, spreadsheets, and market data sources.

Data Preparation:
Cleanse and preprocess the data to remove duplicates, handle missing values, and standardize formats. Transform and reshape the data as needed to create a unified dataset suitable for analysis.

CHAPTER 7

RESULT

ID	Area	City	Restauran	Price	Avg rating	Total ratin	Food type	Address	Delivery time
211	Koramang	Bangalore	Tandoor H	300	4.4	100	Biryani,Chi	5Th Block	59
221	Koramang	Bangalore	Tunday Ka	300	4.1	100	Mughlai,Lu	5Th Block	56
246	Jogupalya	Bangalore	Kim Lee	650	4.4	100	Chinese	Double Ro	50
248	Indiranaga	Bangalore	New Punja	250	3.9	500	North Indi	80 Feet Ro	57
249	Indiranaga	Bangalore	Nh8	350	4	50	Rajasthani	80 Feet Ro	63
254	Indiranaga	Bangalore	Treat	800	4.5	100	Mughlai,N	100 Feet R	56
258	Indiranaga	Bangalore	Chinita Re	1000	4.5	500	Mexican,B	Double Ro	53
263	Koramang	Bangalore	Cupcake N	150	4.3	100	Desserts,B	4Th Block	57
267	Domlur	Bangalore	Tea Brew	350	4.1	100	American,I	Double Ro	57
308	Koramang	Bangalore	Bangaliana	300	4	500	Bengali	7Th Block	57
435	Koramang	Bangalore	Bamey'S R	400	4.4	100	Chinese,Th	5Th Block	56
446	Cooke Tov	Bangalore	Altaf'S Chi	250	4.3	500	North Indi	Cooke Tov	55
453	Pulikeshi N	Bangalore	Chichabas	532	4.2	100	Mughlai,N	Mm Road	54
464	Sivanchett	Bangalore	Urban Sola	500	2.9	80	American,(	Ulsoor Lak	48
504	Kodihalli	Bangalore	Kaati Zone	150	4.3	100	Fast Food,	Domlur La	59
604	Koramang	Bangalore	Aalishan R	290	4.3	100	Mughlai,N	7Th Block	52
608	Domlur	Bangalore	Kerala Pav	300	4.1	100	Kerala,Sea	Domlur La	55
621	Indiranaga	Bangalore	Kitchen Of	250	4.4	100	Bengali,Fa	Domlur	55
1050	Jayanagar	Bangalore	Nagarjuna	800	4.2	1000	Seafood,A	3Rd Block	48
1299	Film Nagar	Hyderabac	So. The Sk	800	2.9	80	Mughlai,N	Near Apoll	90
1304	Indiranaga	Bangalore	Esplanade	1200	4.3	100	Mughlai,Be	I Indiranga	54
1457	Banashank	Bangalore	Hotel New	250	3.8	100	North Indi	Bsk 1St Sta	53
1547	Masab Tar	Hyderabac	Dine Hill	400	4.1	500	Arabian,Bi	Ahmed Na	49

FIGURE 7.1

FIGURE 7.2

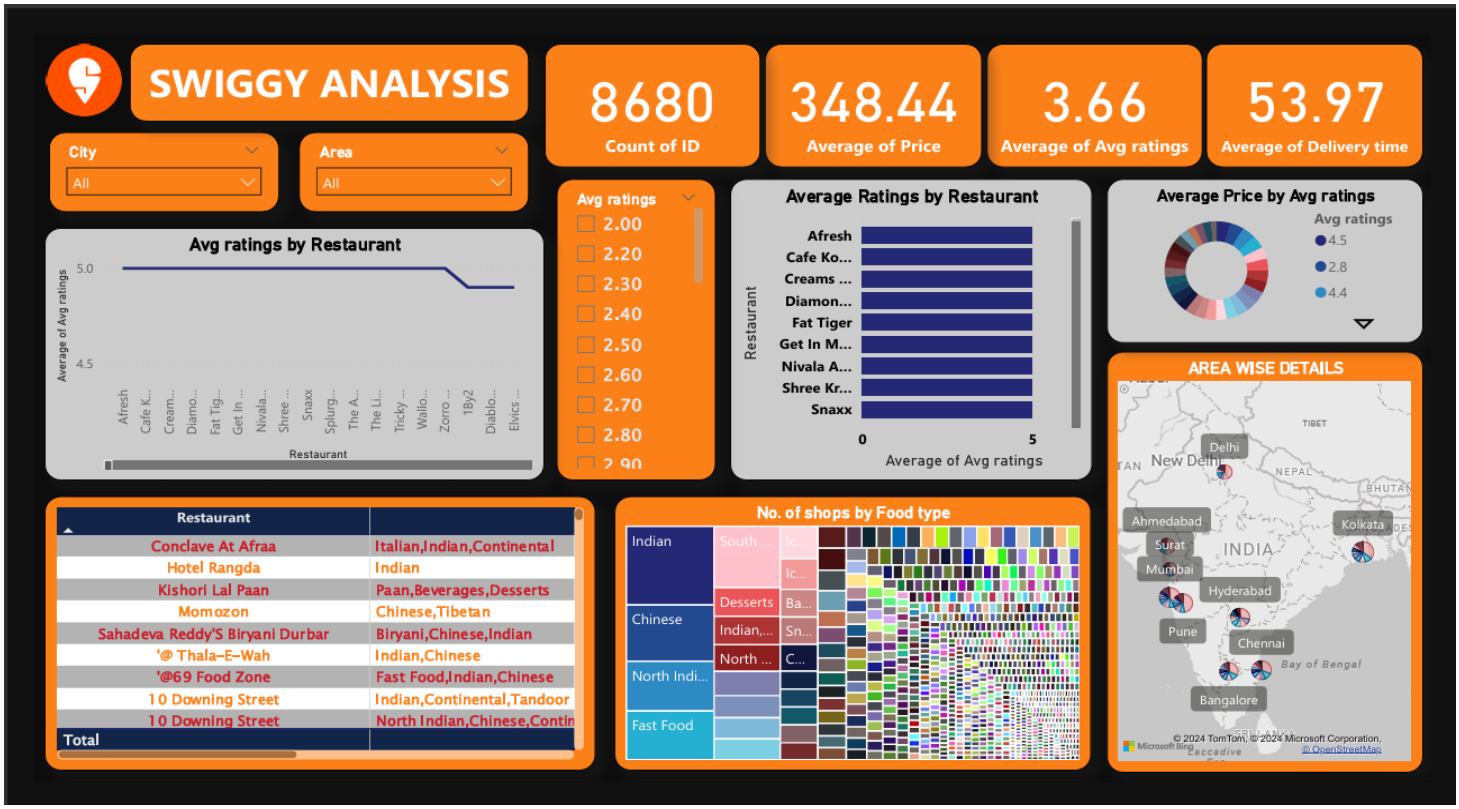
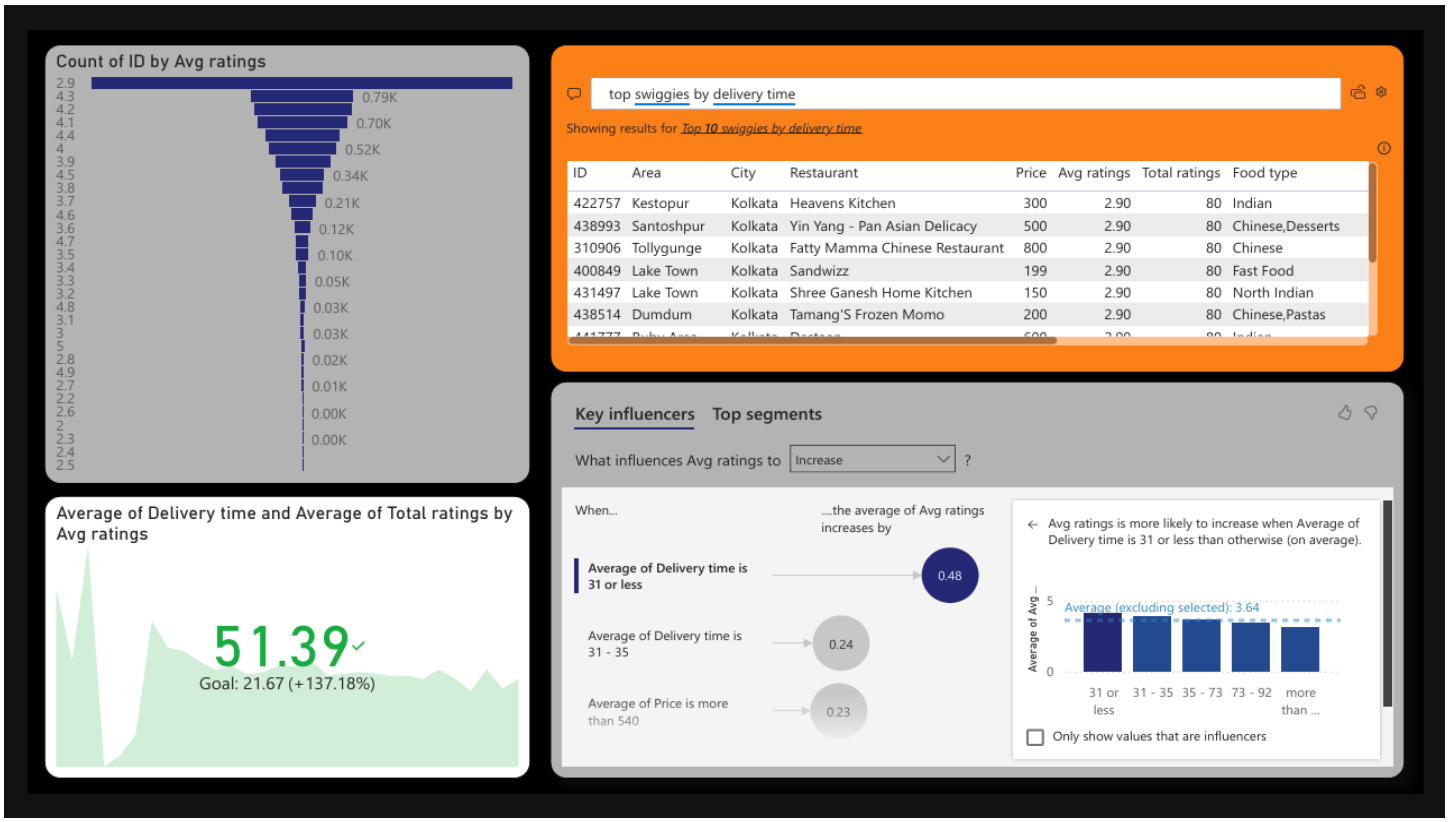


FIGURE 7.3



CHAPTER 8

CONCLUSION

In conclusion, the Swiggy data analysis conducted through Power BI has revealed crucial insights into customer behavior, order trends, and operational efficiencies. The study highlighted popular cuisines, seasonal ordering patterns, and geographical preferences, providing a comprehensive understanding of market dynamics. Notably, the analysis underscored the significance of promotional strategies and their impact on order volumes, as well as the importance of customer retention initiatives. By leveraging these insights, Swiggy can optimize its service offerings, enhance marketing efforts, and allocate resources more effectively. Moving forward, ongoing data monitoring and advanced analytics will be essential in adapting to evolving customer needs and maintaining a competitive edge in the food delivery industry.

CHAPTER 9

FUTURE SCOPE

The future scope of the Swiggy data analysis project includes several strategic enhancements. Implementing predictive analytics could optimize inventory management by forecasting customer demand, while customer segmentation would enable tailored marketing efforts. Additionally, integrating real-time data analysis could facilitate dynamic responses to market trends, and sentiment analysis on customer feedback could guide service improvements. Exploring these areas will not only enhance operational efficiencies but also significantly improve customer satisfaction and retention in the competitive food delivery market.