Tech Saksham

Case Study Report

DATA ANALYTICS WITH POWER BI

"360-degree Business Analysis of Online Delivery Apps"

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ABSTRACT

- In this digital landscape, businesses operating in the online delivery sector require robust analytical tools to gain insights into their operations, customer behavior, and market dynamics. This study presents a comprehensive 360-degree business analysis of online delivery apps leveraging the capabilities of Power BI, a powerful business analytics tool.

- The research begins by outlining the significance of online delivery apps in the contemporary market, highlighting their impact on consumer behavior and market trends. Subsequently, it delves into the methodology employed, focusing on the utilization of Power BI for data collection, analysis, and visualization. By harnessing the advanced features of Power BI, such as interactive dashboards, data modeling, and real-time updates, businesses can gain a holistic view of their performance metrics, operational efficiency, and customer engagement.

- Furthermore, the study explores various dimensions of analysis, including sales trends, order fulfillment rates, customer preferences, geographical distribution, and competitor benchmarking. Through the integration of diverse data sources, such as transactional data, customer feedback, and market demographics, businesses can uncover actionable insights to optimize their strategies, enhance service quality, and drive sustainable growth

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement:-

- In the rapidly evolving landscape of online delivery services, businesses face the challenge of effectively analyzing and optimizing their operations to stay competitive and meet the dynamic demands of consumers. Despite the availability of vast amounts of data generated by online delivery apps, there exists a lack of comprehensive tools and methodologies to conduct a holistic 360-degree analysis of their business performance.
- The key objective is to provide businesses with actionable insights into various facets of their operations, including but not limited to customer behavior, order fulfillment, delivery efficiency, revenue generation, and market trends.

1.2 Proposed Solution:-

- The proposed solution is to develop a PowerBI dashboard that can analyze sales performance across different time periods, regions, and product categories. The dashboard will integrate data from various sources such as customer behavior including preferences, purchasing habits, and feedback analysis.. It will provide a comprehensive view of customer behavior, preferences, and trends, enabling businesses to make informed decisions. The dashboard will be interactive, user-friendly, and customizable, allowing businesses to tailor it to their specific needs. The real-time analysis capability of the dashboard will enable businesses to respond promptly to changes in customer behavior or preferences, identify opportunities for operational efficiency by analyzing delivery times, order fulfillment rates, driver performance and to identify market trends, competitor analysis, and opportunities for growth and expansion.

1.3 Feature:-

- **Real-Time Analysis**: The dashboard will provide real-time analysis of customer data.
- **Understanding the Market Landscape:** By dissecting market demographics, geographic penetration, and consumption patterns, organizations can tailor their offerings to meet evolving demands, identify untapped opportunities, and fortify their market positioning.
- **Trend Analysis**: The dashboard will identify and display trends in customer behavior.
- **Predictive Analysis**: It will use historical data to predict future customer behavior.

1.4 Advantages:-

- **Data-Driven Decisions**: They can monitor key performance indicators (KPIs) and metrics related to their online delivery app in real time.
- **Improved Customer Engagement**: Understanding customer behavior and trends can help businesses engage with their customers more effectively.
- **Increased Revenue**: By offering a cost-effective platform for conducting comprehensive business analysis and eliminate the need for costly infrastructure investments, making it accessible to businesses with varying budgets.

1.5 Scope:-

❖ The scope of the proposed topic, "360-degree Business Analysis of Online Delivery Apps using Power BI," encompasses a comprehensive examination of various facets of online delivery applications through the lens of Power BI analytics. This analysis will delve into aspects such as customer behavior, order trends, delivery efficiency, revenue generation, and market penetration. By leveraging Power BI's robust analytical capabilities, the study aims to provide insights into optimizing operational strategies, enhancing user experience, identifying growth opportunities, and ultimately fostering the success and competitiveness of online delivery platforms in today's dynamic market landscape.

CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services Used:-

- **Data Collection and Storage Services:** Companies need to collect and store customer data in real-time. This could be achieved through services like Azure Data Factory, Azure Event Hubs, or AWS Kinesis for real-time data collection, and Azure SQL Database or AWS RDS for data storage.

- **Data Processing Services:** Services like Azure Stream Analytics or AWS Kinesis Data Analytics can be used to process the real-time data.

- **Machine Learning Services:** Azure Machine Learning or AWS SageMaker can be used to build predictive models based on historical data.

2.2 Tools and Software used:-

Tools:-

- **PowerBI:** The main tool for this project is PowerBI, which will be used to create interactive dashboards for real-time data visualization.

- **Power Query**: This is a data connection technology that enables you to discover, connect, combine, and refine data across a wide variety of sources.

Software Requirements:-

- **PowerBI Desktop**: This is a Windows application that you can use to create reports and publish them to PowerBI.

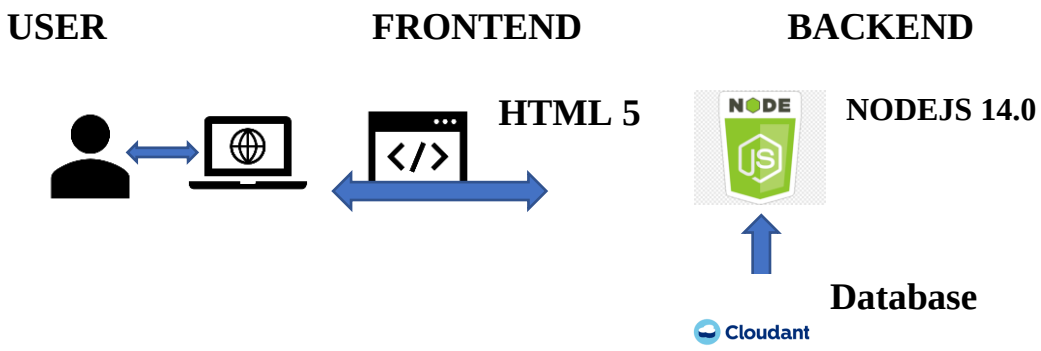
- **PowerBI Service**: This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.

- **PowerBI Mobile**: This is a mobile application that you can use to access your reports and dashboards on the go.

CHAPTER 3

PROJECT ARCHITECTURE

3.1 Architecture:-



Here's a high-level architecture for the project:

1. **Data Collection**: Real-time customer data is collected from various sources like bank transactions, customer interactions, etc. This could be achieved using services like Azure Event Hubs or AWS Kinesis.
2. **Data Storage**: The collected data is stored in a database for processing. Azure SQL Database or AWS RDS can be used for this purpose.
3. **Data Processing**: The stored data is processed in real-time using services like Azure Stream Analytics or AWS Kinesis Data Analytics.
4. **Machine Learning**: Predictive models are built based on processed data using Azure Machine Learning or AWS SageMaker. These models can help in predicting customer behavior, detecting fraud, etc.
5. **Data Visualization**: The processed data and the results from the predictive models are visualized in real-time using PowerBI. PowerBI allows you to create interactive dashboards that can provide valuable insights into the data.
6. **Data Access**: The dashboards created in PowerBI can be accessed through PowerBI Desktop, PowerBI Service (online), and PowerBI Mobile.

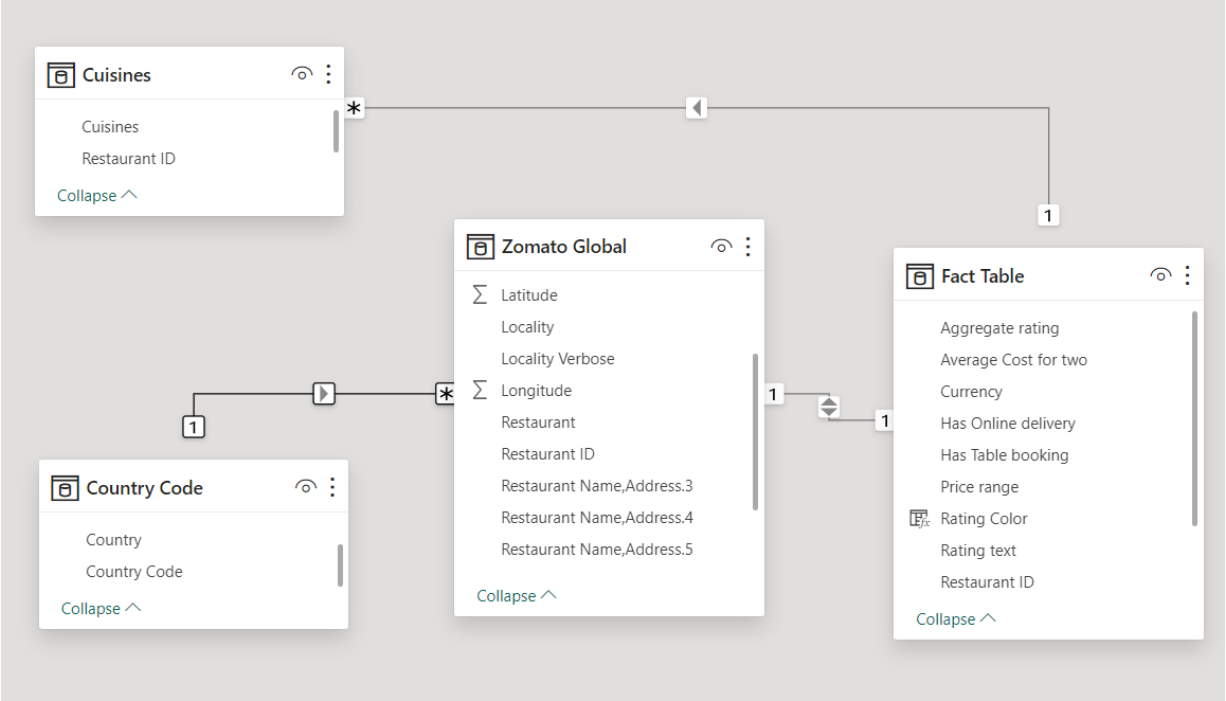
❖ This architecture provides a comprehensive solution for real-time analysis of online customers.It is also important to ensure that all tools and services comply with relevant data privacy and security regulations.

CHAPTER 4

MODELING AND RESULT

Manage relationship:-

- The "Zomato Global" file will be used as the main connector as it contains most key identifier (Country Code, Fact Table) which can be used to relate the 2 data files together. The "Fact Table" file is used to link the "Cuisines File" geographically with "Restaurant ID"



Manage relationships

Active	From: Table (Column)	To: Table (Column)
☑	Cuisines (Restaurant ID)	Fact Table (Restaurant ID)
☑	Zomato Global (Country Code)	Country Code (Country Code)
☑	Zomato Global (Restaurant ID)	Fact Table (Restaurant ID)

Edit relationship

Select tables and columns that are related.

Zomato Global

Restaurant ID	Country Code	City	Restaurant	Address	Restaurant Name,Address.3
306531	1	New Delhi	PM 2 AM Food Bank	1st Floor	Alaknanda Market
3326	1	New Delhi	The Mirch Masala	DDA Murga Market	Near Deep Cinema
18375413	1	New Delhi	Rama Desi Ghee Meat Wala	IA	Block 10 C

Fact Table

Restaurant ID	Average Cost for two	Currency	Has Table booking	Has Online delivery	Price range
18433852	300	Indian Rupees(Rs.)	No	No	1
18465871	300	Indian Rupees(Rs.)	No	No	1
18471268	300	Indian Rupees(Rs.)	No	No	1

Cardinality: One to one (1:1)

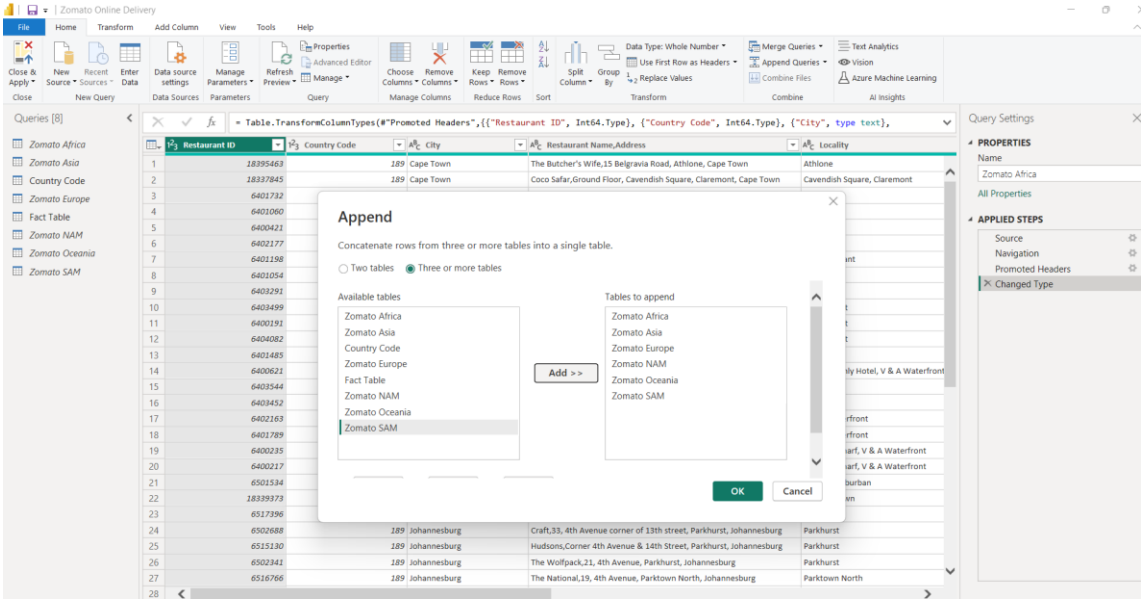
Cross filter direction: Both

☑ Make this relationship active

☐ Assume referential integrity

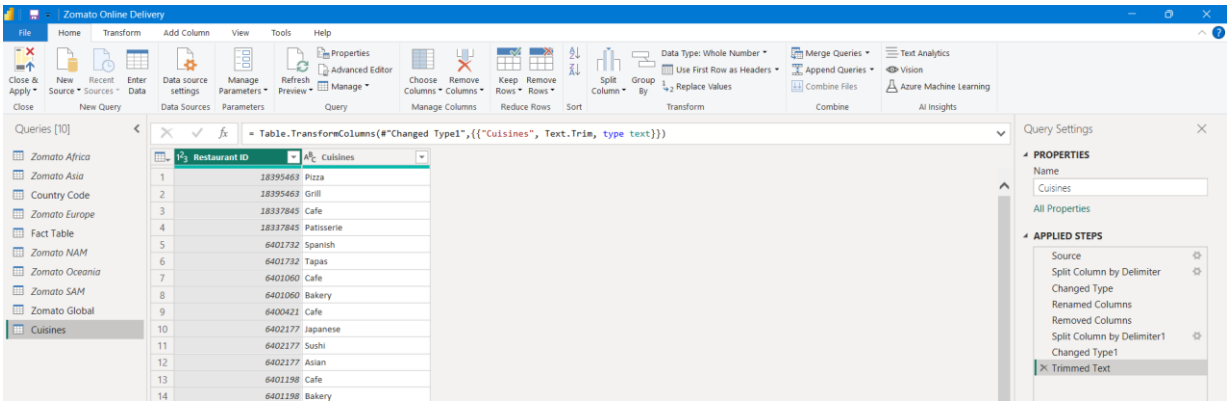
Making of the New Query “Zomato Global”:-

- Notice that all the datas of the different continent are given in separate query. These can be merged into a single query by “append queries as new” option.



Switch Functions for Continent:-

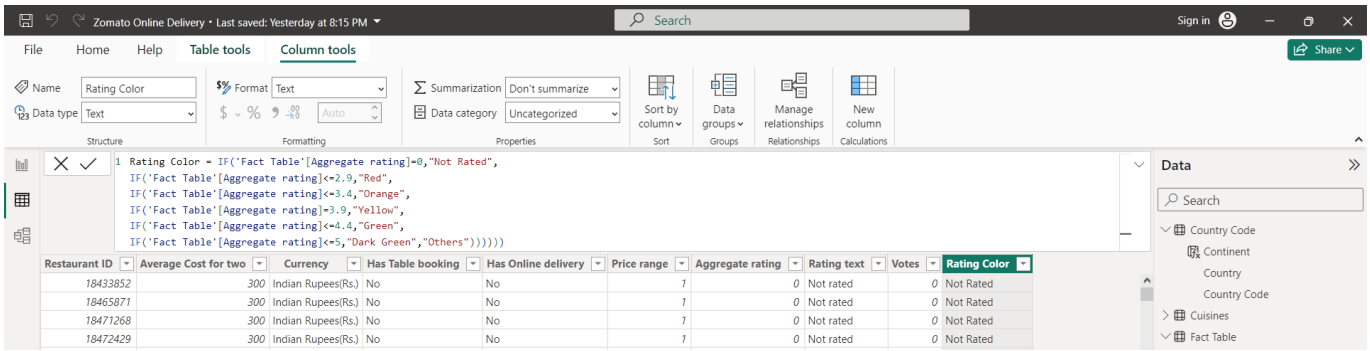
- From the new query “Zomato Global” we take a duplicate of it to create another query called as “Cuisines” which contains only Restaurant Id and Cuisines of different continents.



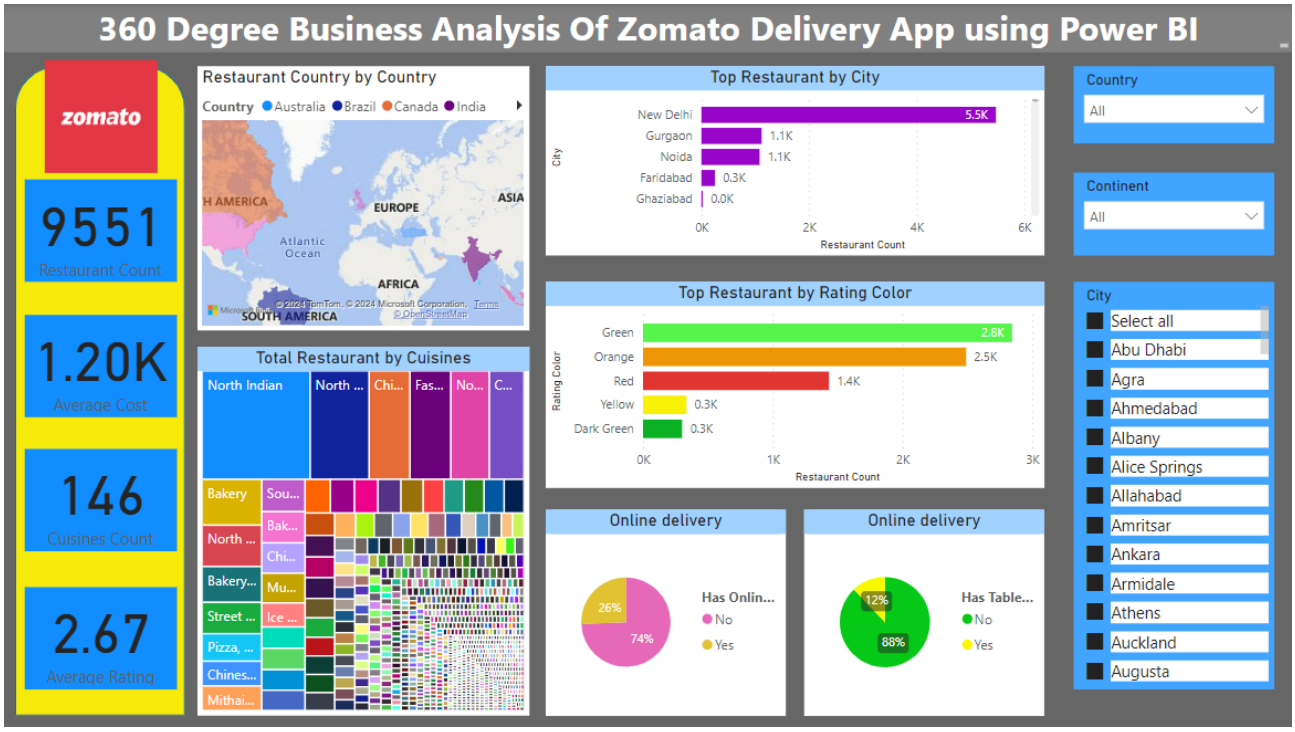
Aggregate Rating and Rating Text:-

- As the Aggregate Rating takes values from 0 to 4.9 which are not reader friendly. We can add a column to represent what it stands for, we also simplify the classification of those with different colors, refer to the table below for details on the new columns added.

Aggregate Rating	Rating Text	Rating Color
0	Not Rated	No Color
0 - 2.9	Poor	Red
3 - 3.4	Average	Orange
3.5 - 3.9	Good	Yellow
4 - 4.4	Very Good	Green
4.5 – 5	Excellent	Dark Green



Dashboard



CONCLUSION

- The project "360- Degree Business Analysis of Online Delivery Apps" using PowerBI has successfully demonstrated the potential of data analytics in the online delivery apps. The real-time analysis of customer data has provided valuable insights into customer behavior, preferences, and trends, thereby facilitating informed decision-making. The interactive dashboards and reports have offered a comprehensive view of customer data, enabling the identification of patterns and correlations. This has not only improved the efficiency of data analysis but also enhanced the online delivery apps ability to provide personalized services to its customers. The project has also highlighted the importance of data visualization in making complex data more understandable and accessible. The use of PowerBI has made it possible to present data in a visually appealing and easy-to-understand format, thereby aiding in better decision-making.

FUTURE SCOPE

- The future scope of this project is vast. With the advent of advanced analytics and machine learning, PowerBI can be leveraged to predict future trends based on historical data. Integrating these predictive analytics into the project could enable the bank to anticipate customer needs and proactively offer solutions. Furthermore, PowerBI's capability to integrate with various data sources opens up the possibility of incorporating more diverse datasets for a more holistic view of customers. As data privacy and security become increasingly important, future iterations of this project should focus on implementing robust data governance strategies. This would ensure the secure handling of sensitive customer data while complying with data protection regulations. Additionally, the project could explore the integration of real-time data streams to provide even more timely and relevant insights. This could potentially transform the way online delivery apps interact with their customers, leading to improved customer satisfaction and loyalty.

REFERENCES

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https://medium.com/@ART2024/zomato-data-set-analysis-visualization-4e32896280b7

LINK

https://github.com/msdsankar7/Zomato-Online-Delivery-Apps

