Case Study Report

Data Analytics with Power BI

“360-degree Business

Analysis of Online Delivery App ”

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ABSTRACT

In today's digital age, online delivery apps have revolutionized the way consumers access goods and services. This study employs Power BI, a powerful business analytics tool, to conduct a comprehensive 360- degree analysis of online delivery apps. Through data visualization and analysis, this research aims to provide valuable insights into various aspects of these apps, including customer behavior, market trends, operational efficiency, and financial performance. The analysis begins by integrating data from multiple sources, such as transaction records, customer feedback, market demographics, and delivery logistics.

Utilizing Power BI's robust capabilities, the study delves into understanding customer preferences, identifying popular products and services, and assessing customer satisfaction levels. Moreover, the research investigates market dynamics, including competitive landscape analysis, market penetration strategies, and geographical demand patterns. By leveraging Power BI's geographic mapping and trend analysis features, the study uncovers opportunities for market expansion and optimization of delivery routes. Furthermore, the analysis extends to operational efficiency, examining key performance indicators (KPIs) related to order fulfillment, delivery times, and inventory management. Through interactive dashboards and real-time data monitoring, this study offers actionable insights to streamline operations and enhance overall efficiency. Finally, the research evaluates the financial performance of online delivery apps, encompassing revenue analysis, cost management, and profitability metrics. By visualizing financial data trends and conducting scenario analysis, the study aids decision-makers in optimizing pricing strategies and resource allocation. Overall, this 360-degree business analysis utilizing Power BI provides a holistic understanding of online delivery apps, empowering stakeholders to make informed decisions, drive innovation, and achieve sustainable growth in the competitive landscape of the digital marketplace.

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CHAPTER 1

INTRODUCTION

1. Problem Statement

The rapidly evolving landscape of online delivery apps, businesses face multifaceted challenges spanning customer satisfaction, market competitiveness, operational efficiency, and financial viability. However, existing analytical approaches often lack the depth and breadth required to address these challenges comprehensively. Current methods for analyzing online delivery apps frequently rely on disparate data sources and conventional analytics tools, leading to fragmented insights and missed opportunities for improvement.

Without a unified and holistic approach to analysis, businesses struggle to uncover actionable insights and optimize performance across all dimensions of their operations. Moreover, the complexity of integrating and analyzing diverse datasets, including transaction records, customer feedback, market trends, and operational metrics, poses significant obstacles to conducting thorough and effective analysis.

2. Proposed Solution

The proposed solution entails leveraging Power BI for a comprehensive analysis of online delivery apps. Firstly, gather diverse data from transaction records, customer feedback, market demographics, and delivery logistics.

Then, design interactive dashboards and visualizations to provide stakeholders with insights into customer behavior, market trends, operational efficiency, and financial performance. Utilize Power BI's capabilities to segment customers, analyze market dynamics, evaluate operational KPIs, and assess financial metrics. Implement predictive analytics models to forecast demand and predict customer behavior, enabling proactive decision-making. Continuously monitor key metrics and iterate strategies based on insights gained from ongoing analysis.

3. Fenatures:

- **Data Integration**: Seamlessly integrate diverse data sources including transaction records, customer feedback, market demographics, and delivery logistics into Power BI for comprehensive analysis. Interactive.
- **Dashboards:** Design interactive and visually appealing dashboards that provide stakeholders with a unified view of key metrics and performance indicators across all aspects of the business.
- **Customer Segmentation**: Utilize Power BI's analytics capabilities to segment customers based on dashboard.

- **Market Analysis:** Conduct in-depth market analysis using Power BI's geographical mapping and trend analysis features to identify market trends, competitor strategies, and geographical demand patterns.
- **Operational Efficiency Monitoring:** Monitor operational performance metrics such as order fulfillment times, delivery accuracy, and inventory turnover in real-time using Power BI's KPI monitoring and trend analysis tools.
- **Financial Performance Evaluation:** Perform detailed financial analysis using Power BI to assess revenue streams, cost structures, and profitability metrics, enabling informed financial decision-making.

•**1.4 Advantages**

•**Comprehensive Insights:** Gain a holistic understanding of all aspects of online delivery operations.

•**Actionable Insights:** Identify opportunities for improvement in customer service, operations, and financial management.

•**Real-time Monitoring:** Stay informed with up-to-date data for quick decision-making.

•**Predictive Analytics:** Anticipate future trends and customer behavior for proactive planning. Efficiency and Cost Savings: Streamline operations and reduce costs for improved profitability.

•**Adaptability:** Customize analytics solutions to evolving business needs.

•**Collaboration:** Facilitate sharing and collaboration among stakeholders for informed decision-making.

•**1.5 Scope**

It involves comprehensive customer analysis, including demographics, preferences, and satisfaction levels. Market analysis is crucial, focusing on understanding competition, market trends, and geographical demand patterns. Operational efficiency is evaluated through monitoring key performance indicators such as order fulfillment times and delivery accuracy. Financial performance analysis involves assessing revenue streams, cost structures, and profitability metrics. Additionally, predictive analytics enables forecasting demand and predicting customer behavior. Scenario analysis helps in assessing the impact of different strategies on key metrics. Continuous monitoring ensures ongoing tracking of performance for iterative improvement, while collaboration and sharing facilitate communication and knowledge sharing among stakeholders.

CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services Used

- **Data Collection and Storage Services**: Banks 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. 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.

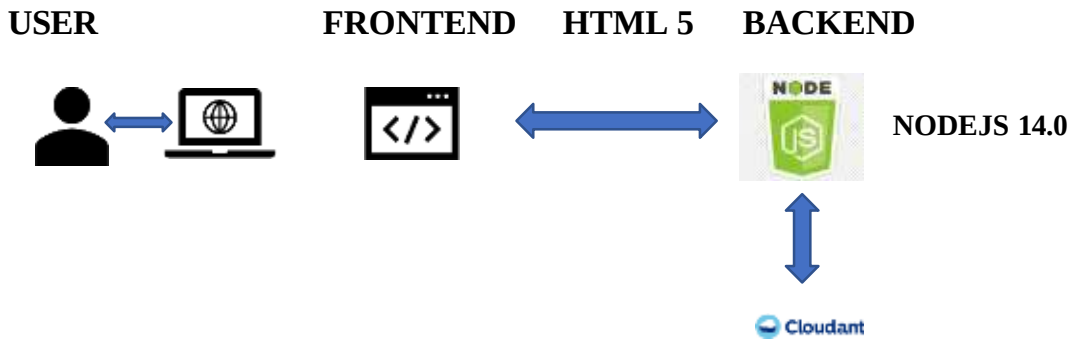
- **PowerBI Service**: This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.

- **PowerBI Mobile**: This is a mo 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.
3. **Data Processing**: The stored data is processed in real-time using services. 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 bank customers. However, it's important to note that the specific architecture may vary depending on the bank's

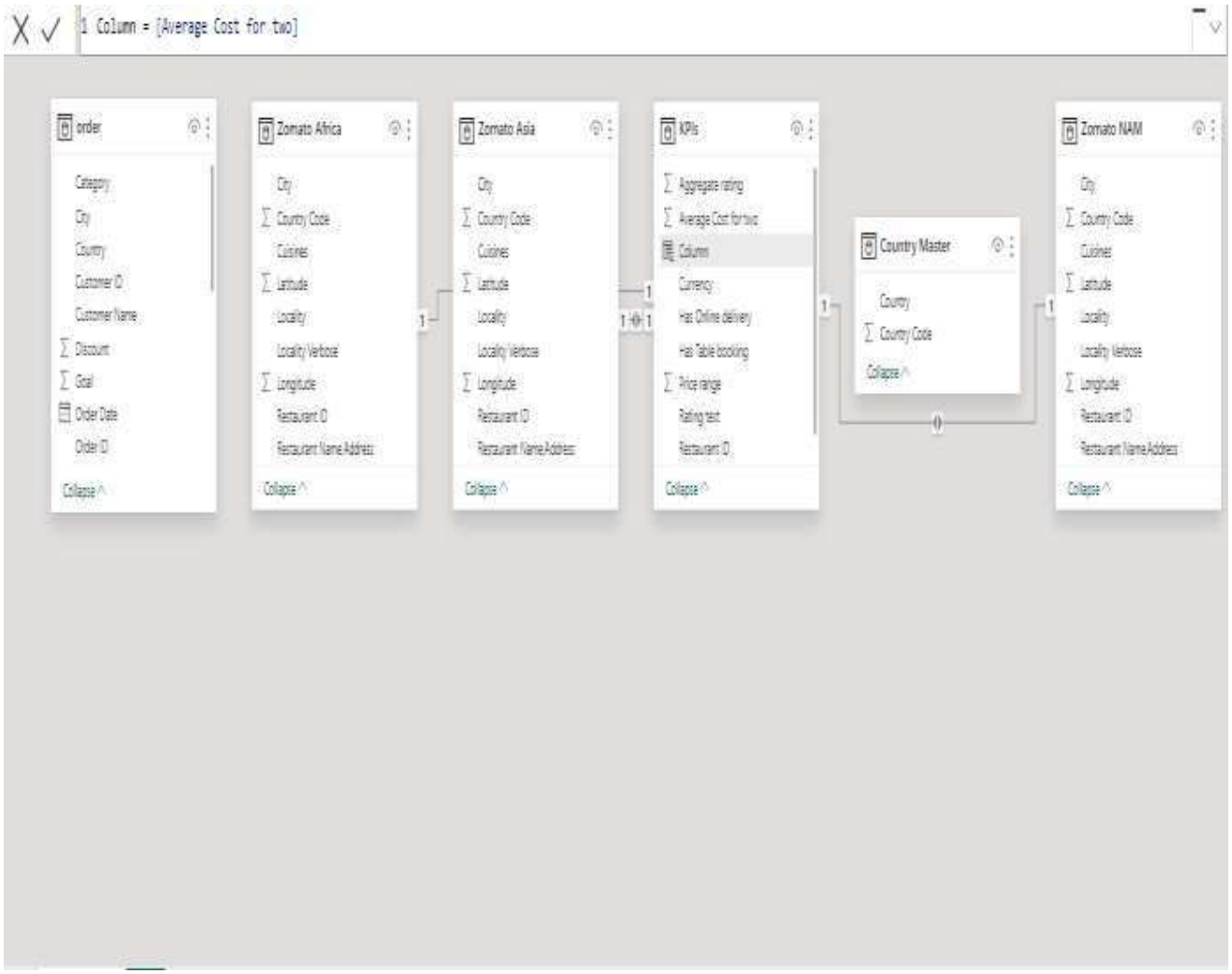
existing infrastructure, specific requirements, and budget. It's also important to ensure that all tools and services comply with relevant data privacy and security regulations.

CHAPTER 4

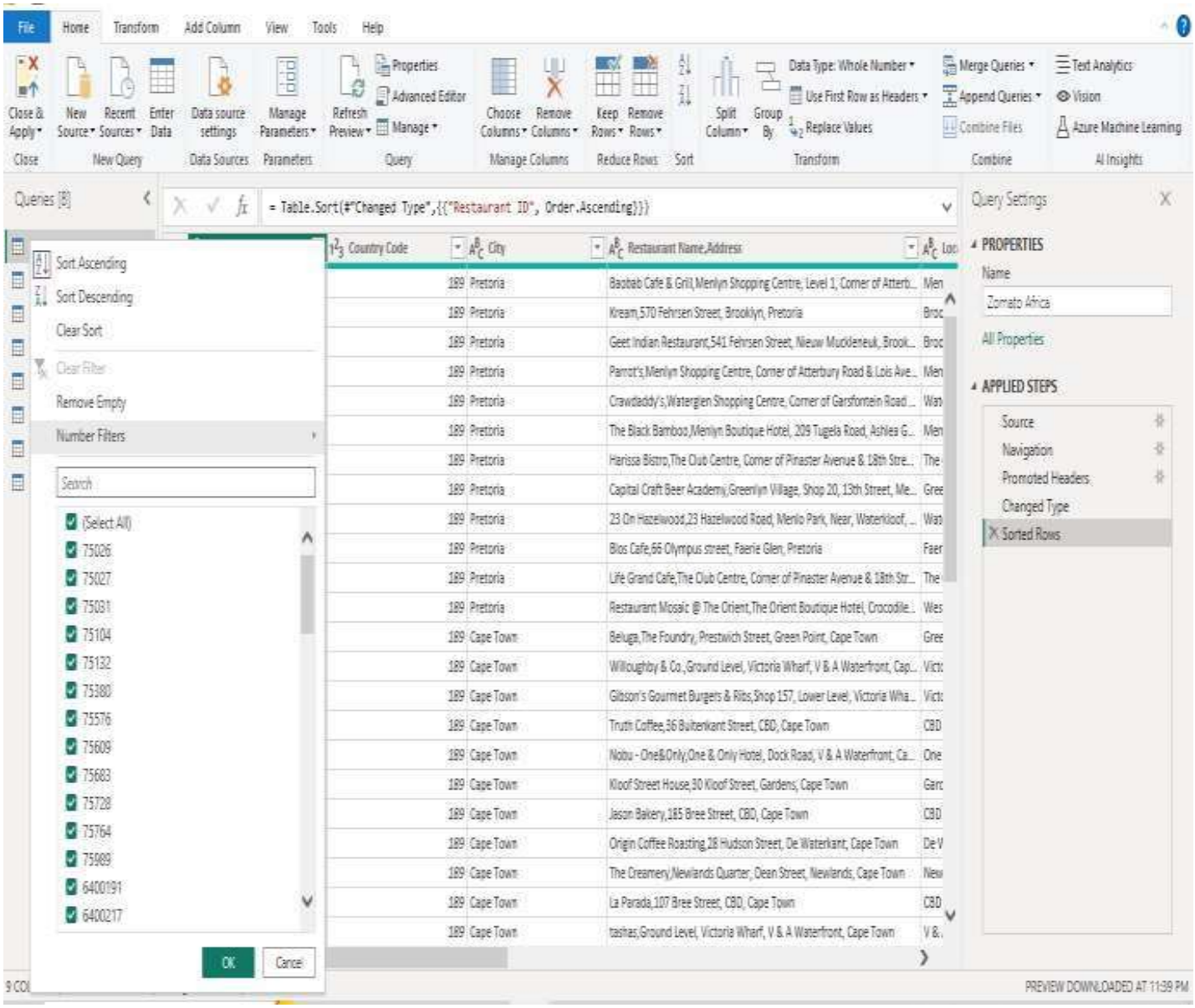
MODELING AND RESULT

Manage relationship

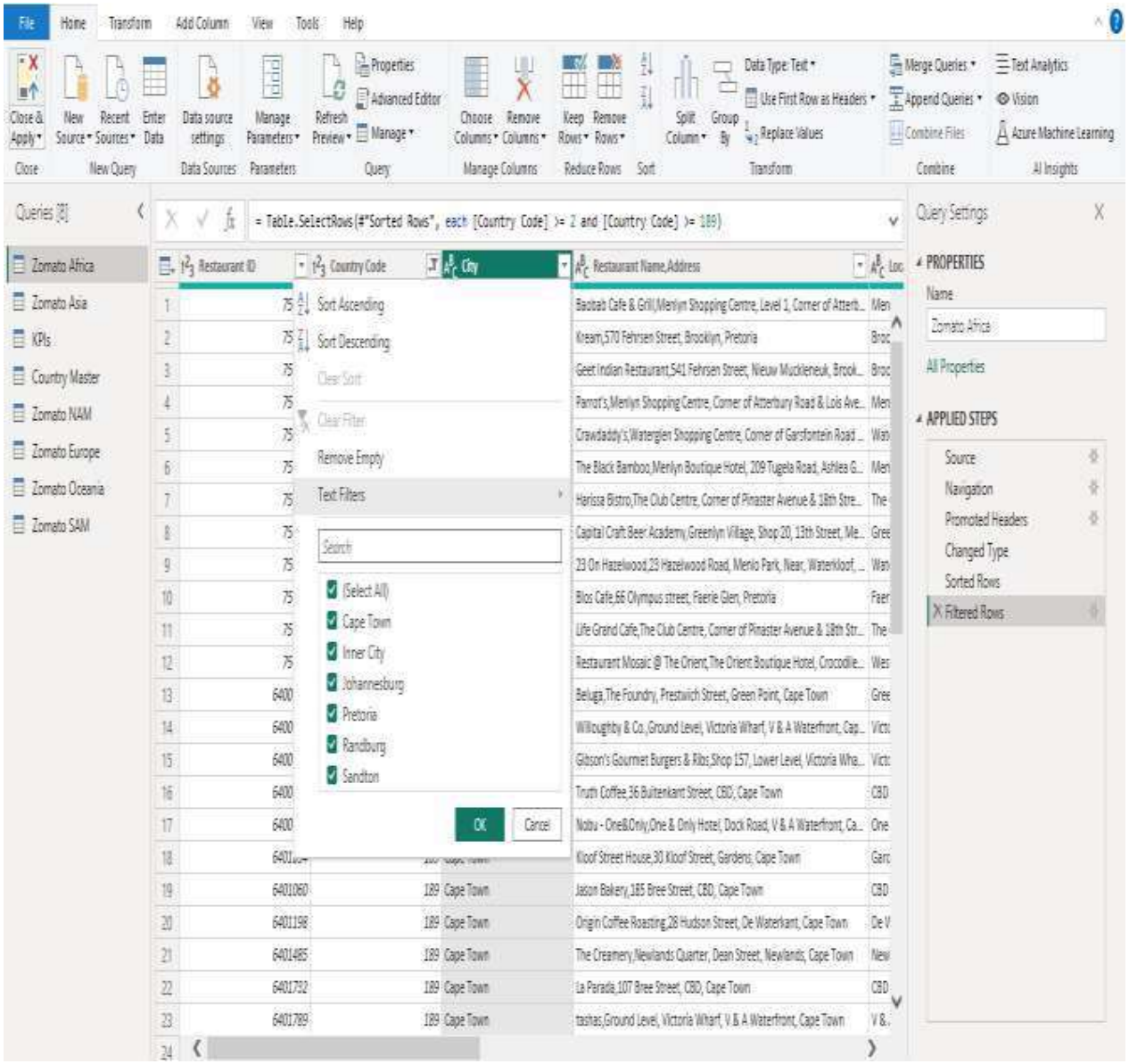
The “disp” file will be used as the main connector as it contains most key identifier which can be use to relates the 6 data files together. The “district” file is use to link the restaurant name with “restaurant id”

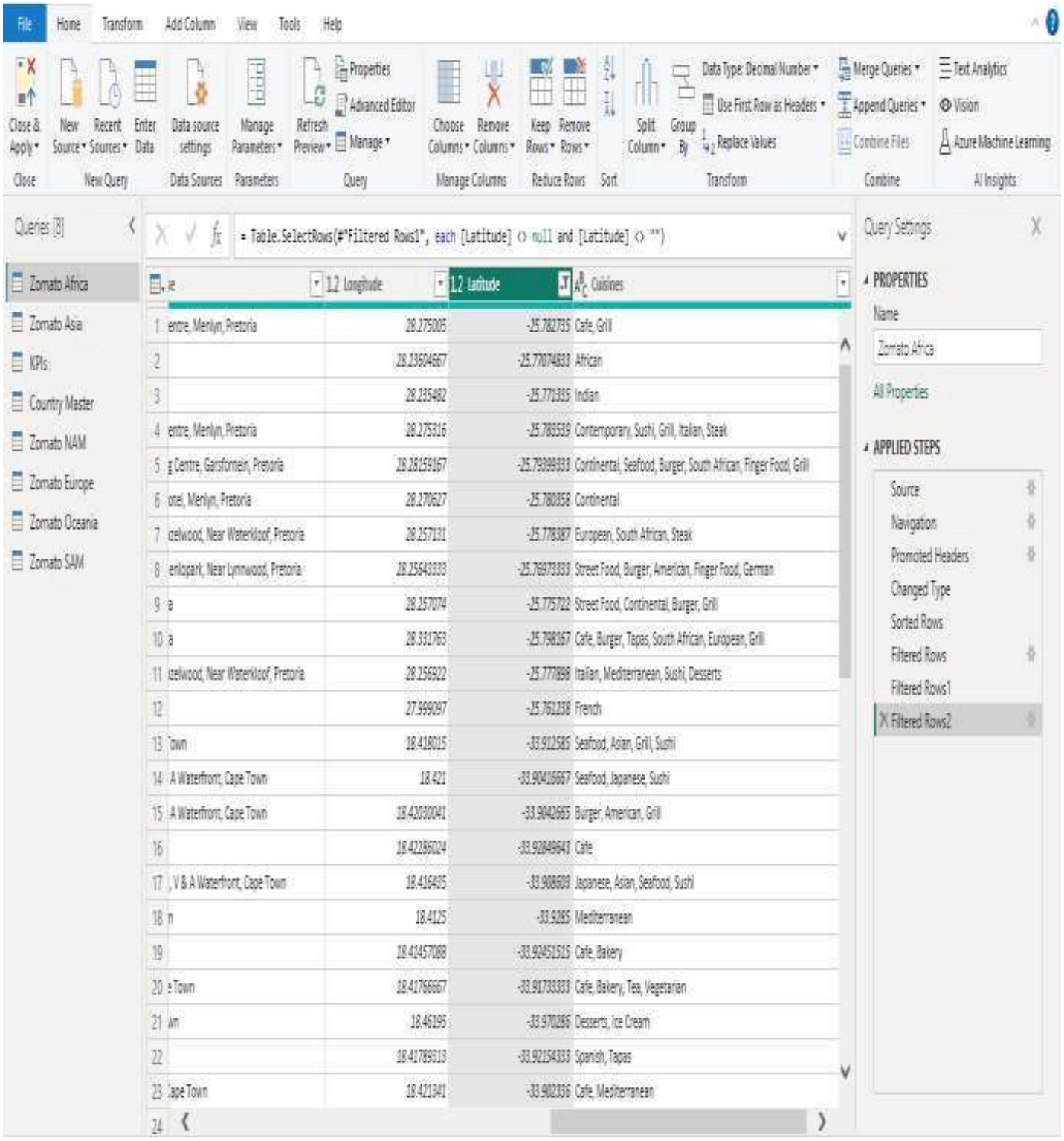


The restaurant ID sorted in ascending order in Power BI Transform Data Query refers to arranging the unique identification numbers assigned to each restaurant in increasing numerical order. This sort operation organizes the data to display restaurant IDs sequentially from the smallest value to the largest. In the context of your project, this sorted list of restaurant IDs can be uploaded as a dataset or utilized for various analytical purposes, such as identifying trends, analyzing performance, or generating reports based on the sequential arrangement of restaurant IDs.



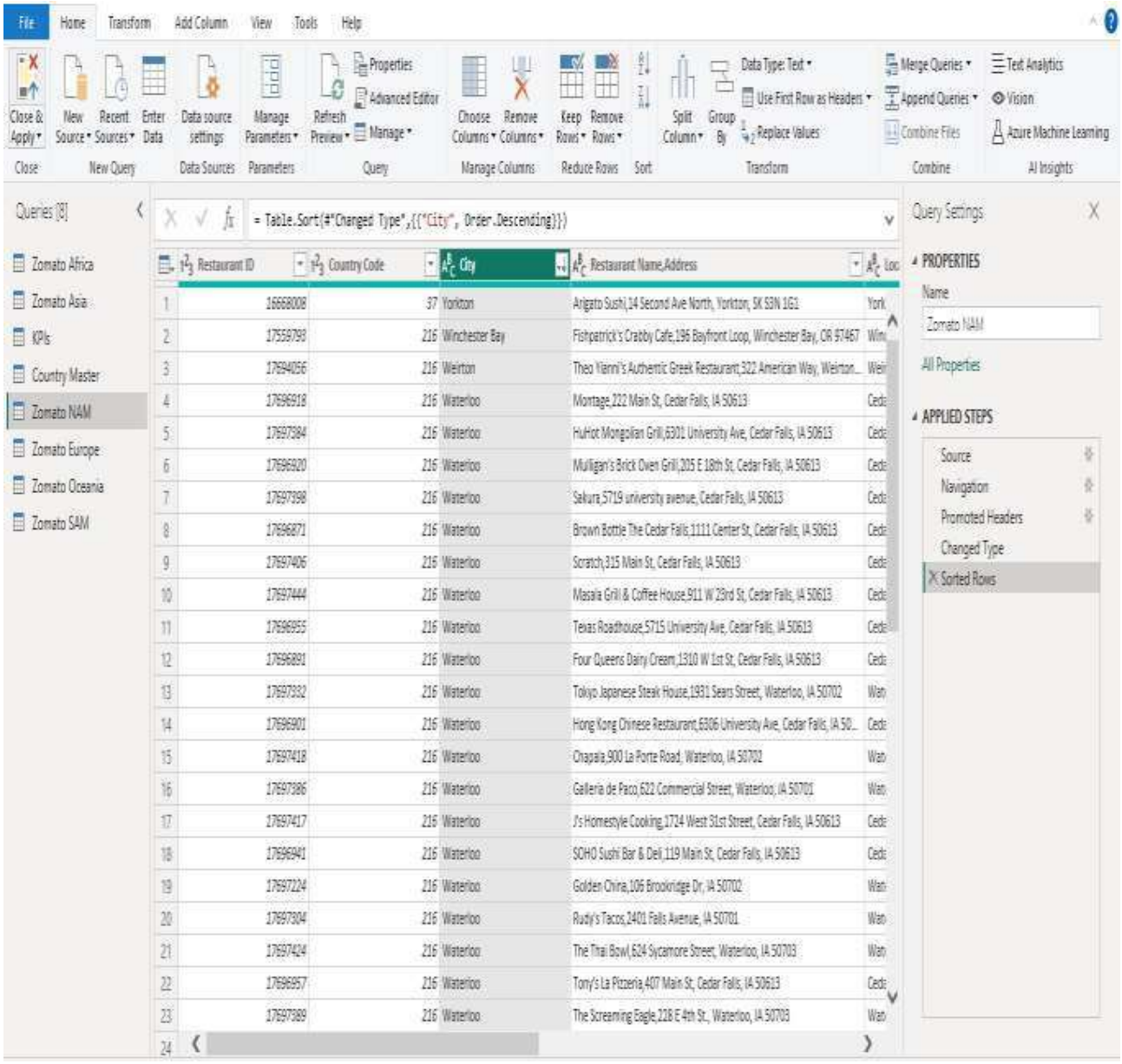
Filtering the restaurant codes in Power BI Transform Data Query involves selecting specific restaurant codes based on certain criteria or conditions. This process helps narrow down the dataset to only include restaurant codes that meet the specified filtering criteria, such as a particular range of values, specific categories, or certain attributes. The filtered restaurant codes can then be uploaded as a refined dataset for analysis, visualization, or reporting purposes within your project.



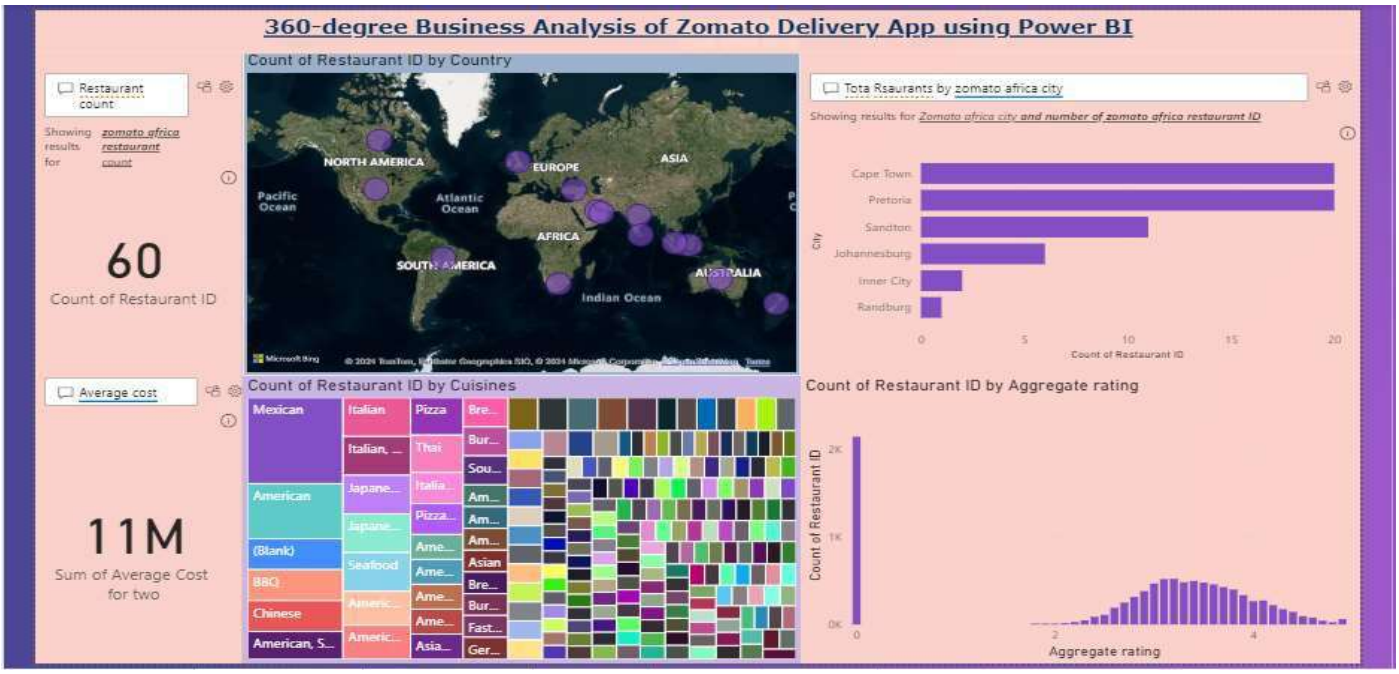

File
Home
Transform
Add Column
View
Tools
Help
Close & Apply
New Source
Recent Sources
Enter Data
Data source settings
Manage Parameters
Refresh Preview
Properties
Advanced Editor
Manage
Choose Columns
Remove Columns
Keep Rows
Remove Rows
Split Column
Group By
Data Type: Decimal Number
Use First Row as Headers
Replace Values
Merge Queries
Append Queries
Combine Files
Text Analytics
Vision
Azure Machine Learning
Close
New Query
Data Sources
Parameters
Query
Manage Columns
Reduce Rows
Sort
Transform
Combine
AI Insights
Queries [8]
Zomato Africa
Zomato Asia
KPIs
Country Master
Zomato NAM
Zomato Europe
Zomato Oceania
Zomato SAM
= Table.SelectRows(#"Filtered Rows1", each [Latitude] <> null and [Latitude] <> "")
1.2 Longitude
1.2 Latitude
Cuisines
1 entre, Menlyn, Pretoria 28.275005 -25.782755 Cafe, Grill
2 28.2360467 -25.77074833 African
3 28.235482 -25.771335 Indian
4 entre, Menlyn, Pretoria 28.275316 -25.783539 Contemporary, Sushi, Grill, Italian, Steak
5 g Centre, Garsfontein, Pretoria 28.28159167 -25.79099333 Continental, Seafood, Burger, South African, Finger Food, Grill
6 otel, Menlyn, Pretoria 28.279627 -25.780358 Continental
7 ccelwood, Near Waterkloof, Pretoria 28.257131 -25.778387 European, South African, Steak
8 enkopark, Near Lynnwood, Pretoria 28.25643333 -25.76973333 Street Food, Burger, American, Finger Food, German
9 a 28.257074 -25.775722 Street Food, Continental, Burger, Grill
10 a 28.331763 -25.798167 Cafe, Burger, Tapas, South African, European, Grill
11 ccelwood, Near Waterkloof, Pretoria 28.256922 -25.777898 Italian, Mediterranean, Sushi, Desserts
12 27.999097 -25.761238 French
13 Town 18.418015 -33.912585 Seafood, Asian, Grill, Sushi
14 A Waterfront, Cape Town 18.421 -33.90416667 Seafood, Japanese, Sushi
15 A Waterfront, Cape Town 18.42030041 -33.9042665 Burger, American, Grill
16 18.42286024 -33.92849643 Cafe
17 , V & A Waterfront, Cape Town 18.416495 -33.908603 Japanese, Asian, Seafood, Sushi
18 n 18.4125 -33.9285 Mediterranean
19 18.41457088 -33.92451515 Cafe, Bakery
20 e Town 18.41766667 -33.91733333 Cafe, Bakery, Tea, Vegetarian
21 an 18.46195 -33.970286 Desserts, Ice Cream
22 18.41789313 -33.92154333 Spanish, Tapas
23 Cape Town 18.421341 -33.902336 Cafe, Mediterranean
24
Query Settings
PROPERTIES
Name
Zomato Africa
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Changed Type
Sorted Rows
Filtered Rows
Filtered Rows1
Filtered Rows2

Removing duplicates from latitude in Power BI Transform Data Query involves eliminating redundant latitude values from the dataset to ensure each latitude value is unique. This process helps to clean and streamline the data, ensuring accuracy and avoiding redundancy in latitude information.

Once duplicates are removed, the cleaned latitude data can be uploaded as a refined dataset for analysis, visualization, or reporting purposes in your project, providing more accurate insights into geographical data.



Dashboard


360-degree Business Analysis of Zomato Delivery App using Power BI
Restaurant count
Showing results for zomato africa restaurant count
60
Count of Restaurant ID
Count of Restaurant ID by Country
NORTH AMERICA
EUROPE
ASIA
Pacific Ocean
Atlantic Ocean
AFRICA
SOUTH AMERICA
AUSTRALIA
Indian Ocean
Tota Rsaurants by zomato africa city
Showing results for Zomato africa city and number of zomato africa restaurant ID
Cape Town
Pretoria
Sandton
Johannesburg
Inner City
Randburg
City
Count of Restaurant ID
Average cost
11M
Sum of Average Cost for two
Count of Restaurant ID by Cuisines
Mexican
American
(Blank)
BBQ
Chinese
American, S...
Italian
Italian, ...
Japane...
Seafood
Pizza
Thai
Count of Restaurant ID by Aggregate rating
Count of Restaurant ID
Aggregate rating


Sum of Latitude and Sum of Longitude
1.25K (31.15%)
2.76K (68.85%)
Sum of L...
Sum of L...
Count of Aggregate rating by City
(Blank)
Cape Town
Inner City
Johannesburg
Pretoria
Randburg
Sandton
City
Count of Aggregate rating
Sum of Restaurant ID
Sum of Restaurant ID
City
Vizag
Varanasi
Vadodara
ÚÁstanbul
Tangerang
Taguig City
Tagaytay City
Surat
Singapore
Sharjah
Secunderabad
Santa Rosa
San Juan City
Ranchi
Quezon City
Count of Currency by cities
Count of Currency by cities
12

CONCLUSION

The project the 360-degree business analysis of the Tomato delivery app using Power BI has successfully documented and it has provided comprehensive insights into various aspects of the platform's performance. Through data visualization and analytics, we have gained a deep understanding of customer preferences, delivery trends, restaurant performance, and market dynamics. By leveraging Power BI's capabilities, we have identified opportunities for optimization, such as enhancing delivery routes, improving restaurant partnerships, and refining marketing strategies to drive growth and customer satisfaction. This holistic approach to analysis has empowered Zomato to make data-driven decisions, adapt to changing market conditions, and ultimately strengthen its position as a leading player in the food delivery industry.

FUTURE SCOPE

The feature scope for the 360-degree business analysis of Zomato's delivery app using Power BI encompasses several critical components. Firstly, it involves integrating data from diverse sources, including transactional records, customer feedback, delivery logs, and market trends, to provide a comprehensive view of the business landscape.
Interactive dashboards with drill-down capabilities enable stakeholders to explore data at various levels of granularity, facilitating deeper insights into performance metrics and trends.

Advanced visualizations, such as geographic maps, trend lines, and heat maps, enhance the analysis by visually representing complex data relationships and patterns. Predictive analytics models are employed to forecast customer demand, optimize delivery routes, and anticipate market trends, enabling proactive decision-making.

Real-time monitoring capabilities track key performance indicators like order volumes, delivery times, and customer satisfaction scores, empowering timely interventions and adjustments. Cross-functional analysis correlates data across marketing campaigns, menu optimization, and customer segmentation to uncover interdependencies and synergies, fostering holistic business optimization.

Additionally, robust data governance and security measures ensure the integrity and confidentiality of sensitive information, maintaining trust and compliance with regulatory requirements. By leveraging these features, Zomato can derive actionable insights, optimize operational efficiency, improve customer satisfaction, and drive sustainable growth in the competitive food delivery market.