Tech Saksham

CaseStudyReport

DataAnalyticswithPowerBI

"360-degree Business Analysis of Online Delivery Apps using Power Bi"

" The Madurai Diraviyam Thayumanavar Hindu College"

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ABSTRACT

The rise of online delivery apps has transformed the way businesses operate and consumers access goods and services. This paper conducts a comprehensive 360- degree analysis of the business landscape surrounding online delivery apps, examining various aspects including market trends, competitive dynamics, technologicaladvancements,regulatorychallenges,andconsumerbehavior.Through amulti-dimensionalapproach,itdelvesintotheopportunitiesandchallengesfacedby both established players and emerging startups in this rapidly evolving industry. By synthesizinginsightsfromdiverseperspectives,thisanalysisaimstoprovidevaluable insights for stakeholders seeking to navigate the complexities of the online delivery app ecosystem and capitalize on emerging trends to drive business success.

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement

Zomatooperatesinahighlycompetitivemarket,facingrivalryfromglobalgiantslike UberEats,DoorDash,andlocalcompetitorsinvariousregions.Thefiercecompetition puts pressure on Zomato to continuously innovate and differentiate its offerings to retain market share and attract new customers

Efficientandtimelydeliveryiscrucialforcustomersatisfactionintheonlinedelivery app industry. However, managing delivery logistics, optimizing routes, and ensuring driver availability pose operational challenges for Zomato, particularly during peak demand periods or in densely populated urban areas.

Retaining existing customers and fostering loyalty is essential for sustainable growth in the online delivery app industry. Zomato faces the challenge of delivering consistent and satisfying experiences to users while also competing for their attentionandloyaltyamidaplethoraofcompetingplatformsandservices.

Zomato faces scrutiny and criticism regarding its labor practices, treatment of deliverypartners,andethicalconsiderationssuchasenvironmentalsustainabilityand social responsibility. Addressing these concerns and aligning with societal expectations is essential for maintaining Zomato's reputation and brand image.

1.2 Proposed Solution

Zomato should focus on innovation to differentiate its services from competitors. This could include introducing unique features such as personalized recommendations, advanced search filters, and virtual kitchen partnerships to offer exclusive menu items.

Investingintechnology-drivensolutionslikeAI-drivenorderpredictionalgorithmsand

augmentedrealitymenubrowsingcanenhanceuserexperienceandsetZomatoapart

inthemarket.

Zomato must prioritize regulatory compliance across all markets it operates in, ensuring adherence to local laws and regulations related to food safety, labor practices,dataprivacy,andtaxation.

Implementing ethical practices such as fair compensation for delivery partners, transparent pricing policies, and sustainable packaging solutions can enhance Zomato's reputation and build trust with customers

Enhancing customer engagement through targeted marketing campaigns, social mediainteractions,andinteractivecontentcanstrengthenZomato'srelationshipwith its user base.

IntroducingLoyaltyprograms,referralincentives,andexclusivedealsforrepeat customers can encourage retention and foster brand loyalty among users.

1. 3 Feature

- **Real-TimeAnalysis:**Inthehighlydynamiconlinedeliveryappindustry,timelyinsights intocustomerbehavior,preferences,andtrendsarecriticalformakinginformed decisions and optimizing operations.
- **CustomerSegmentation:**TransactionBehavior:Segmentingcustomersbasedontheir transaction behavior, such as order frequency, average order value, and preferred cuisine types,enables Zomato toidentify high-value customersandpersonalize their experiences.Usage Patterns: Analyzing usage patterns, such as app engagement frequency,preferreddevicetypes,andtimeofdayfororder ing,helpsZomatooptimize its app features and user interface to enhance customer satisfaction.
- **TrendAnalysis:**Analyzetrendsindeliverytimes,deliverydistances,anddeliverycosts to optimize delivery operations and enhance service efficiency.Identify trends in deliveryrouteoptimization,driveravailability,andorderfulfillmentratestoimprove overall delivery performance.
- **PredictiveAnalysis:**Usehistoricaldeliverydataandexternalfactorssuchastraffic patterns,weatherconditions,andordervolumestopredictfuturedeliverytimes. Optimizedeliveryrouteplanning,staffinglevels,anddispatchingstrategiestoensure timelyandefficientorderfulfillment.

1.4 Advantages

- **Data-Driven Decisions:**Data-driven insights help streamline operational processes withinonlinedeliveryapps.Byanalyzingdataondeliveryroutes,driverperformance, andorderfulfillmenttimes,appscanoptimizelogistics,allocateresourcesefficiently, andensuretimelydelivery,ultimatelyenhancingoperationalefficiencyandreducing costs.

- **Improved Customer Engagement:**Improved customer engagement leads to a more satisfyinguserexperience.Byactivelyengagingwithcustomersthroughpersonalized recommendations, timely notifications, and responsive customer support, online delivery apps like Zomato can create positive interactions that resonate with users, ultimately leading to higher satisfaction levels.Strong customer engagement fosters loyalty and retention among users. By building meaningful relationships with customers through regular communication, exclusive offers, and rewards programs, apps can cultivate a loyal user base that continues to patronize their services and advocate for the brand.Improved customer engagement can drive higher conversion rates and increased sales. By engaging with customers at various touchpoints throughouttheirjourney,frombrowsingtoorderingtopost-purchasefeedback,apps can influence purchasing decisions and encourage repeat purchases, ultimately boosting revenue and profitability.

- **IncreasedRevenue:**Increasedrevenueoftencorrelateswithagrowingcustomerbase. By attracting new users through targeted marketing campaigns, promotions, and referralprograms,onlinedeliveryappslikeZomatocanexpandtheirreachandacquire morecustomers,ultimatelydrivingrevenuegrowth.Increasedrevenuecanresultfrom higher average order values. By offering upselling and cross-selling opportunities, personalized recommendations, and promotions for larger orders, apps can encourage customers to spend more per transaction, leading to increased revenue generation.Increasedrevenuecanbedrivenbyimprovedcustomerretentionrates.By focusing on customer engagement, loyalty programs, and personalized experiences, apps can retain existing customers and encourage repeat purchases, leading to a steady stream of revenue over time.

1.5 Scope

Market Analysis: Assess the current state of the online delivery market, including marketsize,growthtrends,keyplayers,andcompetitivelandscape.Identifyemerging market opportunities, market segments, and customer segments for targeted expansion and growth strategies.

Customer Analysis:Analyze customer demographics, preferences, behavior, and purchasing patterns to understand target audiences and tailor offerings accordingly.Conduct customer segmentation to identify high-value customer segments and develop personalized marketing strategies and loyalty programs.

Competitive Analysis:Evaluate competitors' offerings, pricing strategies, marketing tactics,andcustomerengagementinitiativestobenchmarkperformanceandidentify areas for differentiation.Analyze competitive strengths and weaknesses to inform strategic positioning and value proposition development.

Operational Analysis:Assess the efficiency and effectiveness of operational processes,includingorderfulfillment,deliverylogistics,inventorymanagement,and customer support.Identify opportunities for process optimization, automation, and streamliningtoimproveoperationalefficiencyandenhancecustomerexperience.

Technology Analysis:Evaluate the technological infrastructure, platforms, and tools used in the online delivery app ecosystem, including order management systems, mobile apps, and delivery tracking systems.Identify opportunities for technology innovation, integration, and enhancement to drive operational excellence and customer satisfaction.

Financial Analysis:Conduct a financial analysis of revenue streams, cost structures, profit margins, and key financial metrics to assess business performance and profitability.Identifyopportunitiesforrevenuegrowth,costoptimization,andmargin improvementtodrivesustainablefinancialgrowthandmaximizeshareholdervalue.

Regulatory Analysis:Assess regulatory compliance requirements, legal frameworks, andindustrystandardsgoverningtheonlinedeliveryappindustryinvariousregions

and jurisdictions. Identify potential regulatory risks, compliance challenges, and legal considerations to mitigate risks and ensure compliance with applicable laws and regulations.

Risk Analysis: Conduct a risk analysis to identify potential threats, vulnerabilities, and risks to the business, including cybersecurity risks, fraud risks, and market risks. Develop risk mitigation strategies and contingency plans to address identified risks and safeguard the business against potential threats and disruptions.

Sustainability Analysis: Evaluate environmental sustainability practices, social responsibility initiatives, and ethical considerations in the online delivery app industry. Identify opportunities for sustainable business practices, responsible sourcing, and environmental stewardship to enhance brand reputation and corporate citizenship.

Strategic Recommendations: Based on the findings of the 360-degree business analysis, provide strategic recommendations and action plans to capitalize on opportunities, address challenges, and achieve business objectives. Develop a roadmap for implementation, monitoring, and evaluation of recommended strategies to drive continuous improvement and sustainable growth.

CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services Used

- **DataCollectionandStorageServices:**Zomatoneedtocollectandstore customerdatainreal-time.ThiscouldbeachievedthroughserviceslikeAzure DataFactory,AzureEventHubs,orAWSKinesisforreal-timedatacollection, andAzure SQL Database or AWS RDS for data stora

- **DataProcessingServices:**ServiceslikeAzureStreamAnalyticsorAWSKinesis Data Analyticscan be used to process the real-time data.

- **MachineLearningServices:**AzureMachineLearningorAWSSageMakercan beusedtobuildpredictivemodelsbasedon historicaldata.

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.

- **PowerQuery**:Thisisadataconnectiontechnologythatenablesyoutodiscover,

  connect,combine,andrefinedataacrossawidevarietyofsources.

SoftwareRequirements:

- **PowerBIDesktop**:ThisisaWindowsapplicationthatyoucanusetocreate reports and publish them to PowerBI.

- **PowerBIService**:ThisisanonLineSaaS(SoftwareasaService)servicethat you use to publish reports, create new dashboards, and share insights.

- **PowerBIMobile**:ThisisamobileapplicationthatyoucanusetoaccessyOur reports and dashboards on the go.

CHAPTER 3

PROJECT ARCHITECTURE

3.1 Architecture

Here'sahigh-LevelarchitectureforthepRoject:

1. **DataCoLLection:**Real-timecustomerdataiscoLLectedfromvarioussourcesLike bankTransactions,customerinteractions,etc.ThiscouLdbeachievedusing services Like Azure Event Hubs or AWS Kinesis.

2. **DataStorage:**ThecoLLecteddataisstoredinadatabaseforprocessing.Azure SQL Database or AWS RDS can be used for this purpose.

3. **DataProcessing:**ThestoreddataisprocessedinreaL-timeusingservicesLike 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 Power BI. Power BI allows you to create interactive dashboards that can provide valuable insights into the data.

6. **Data Access**: The dashboards created in Power BI can be accessed through

PowerBIDesktop,PowerBIService(online),andPowerBIMobile.

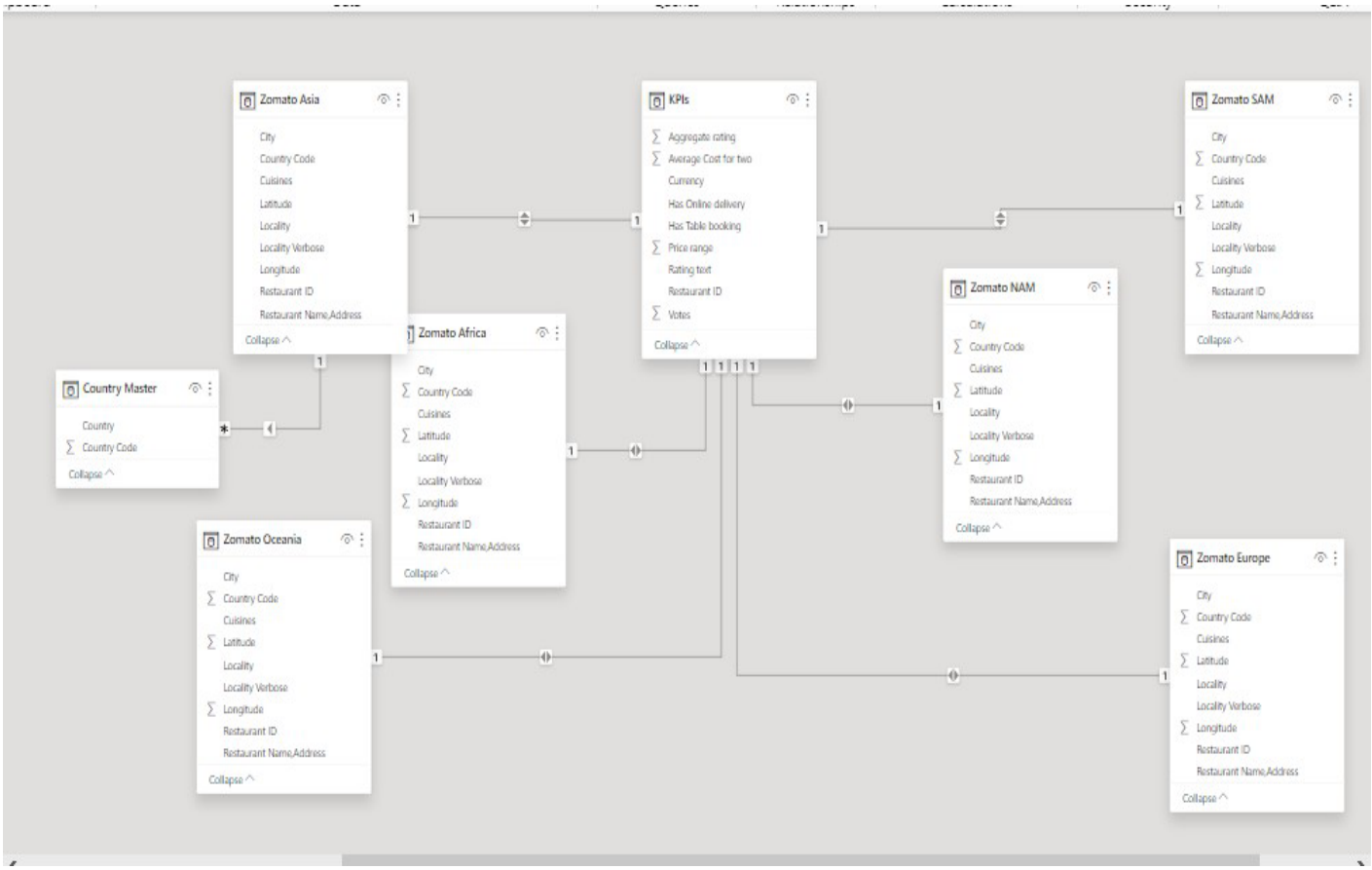
Thisarchitectureprovidesacomprehensivesolutionforreal-timeanalysisofbank customers.However,it'simportanttonotethatthespecificarchitecturemayvary dependingonthebank'sexistinginfrastructure,specificrequirements,andbudget.It's alsoimportanttoensurethatalltoolsandservicescomplywithrelevantdataprivacy and security regulations.

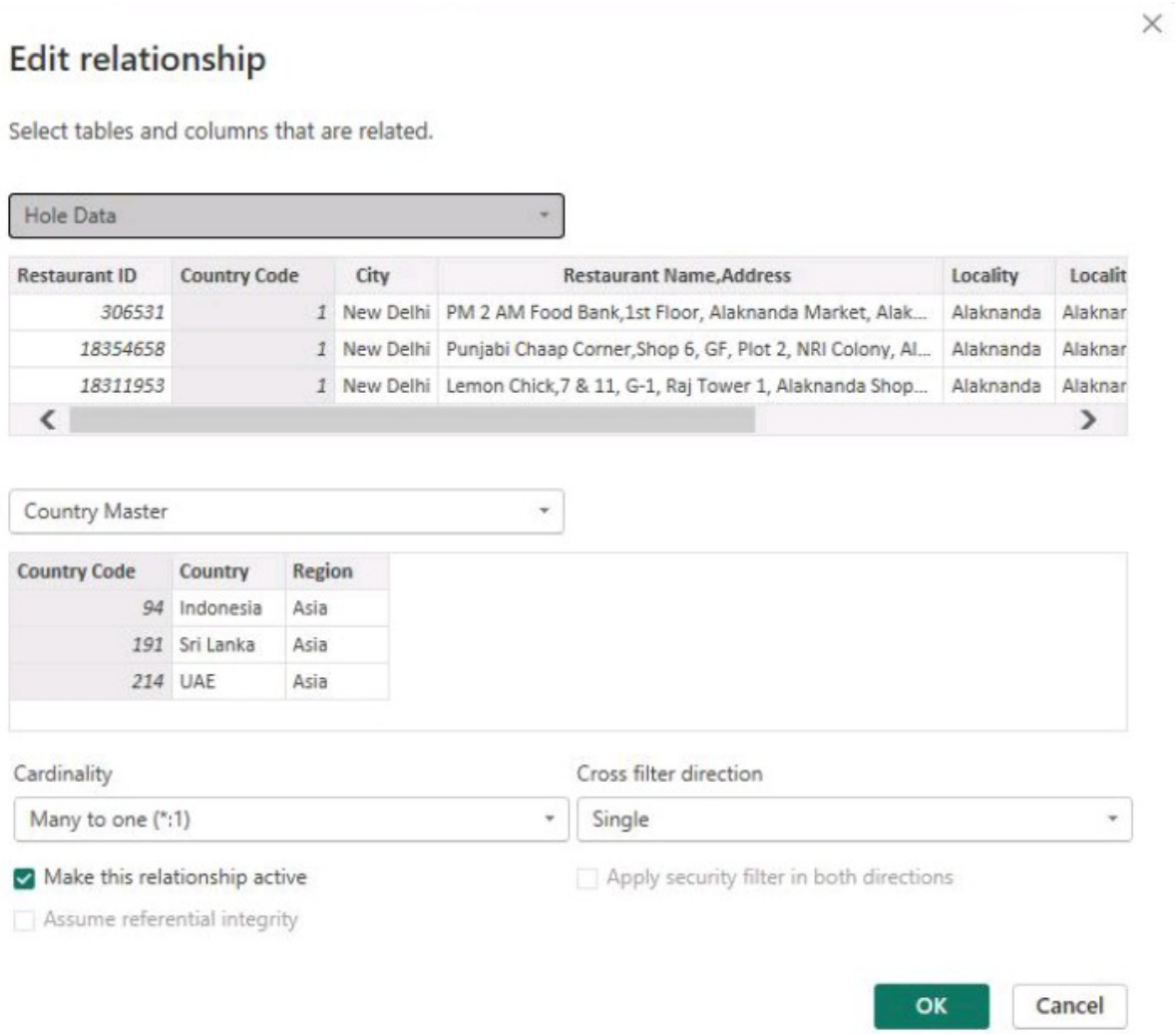
CHAPTER 4

MODELING AND RESULT

Manage relationship

The " KPIs" file will be used as the main connector as it contains most keyidentifier(Country,Countrycode)whichcanbeusetorelatesthe6datafilestogether.The"district" file is use tolink theclient profilegeographically with"Restaurants id





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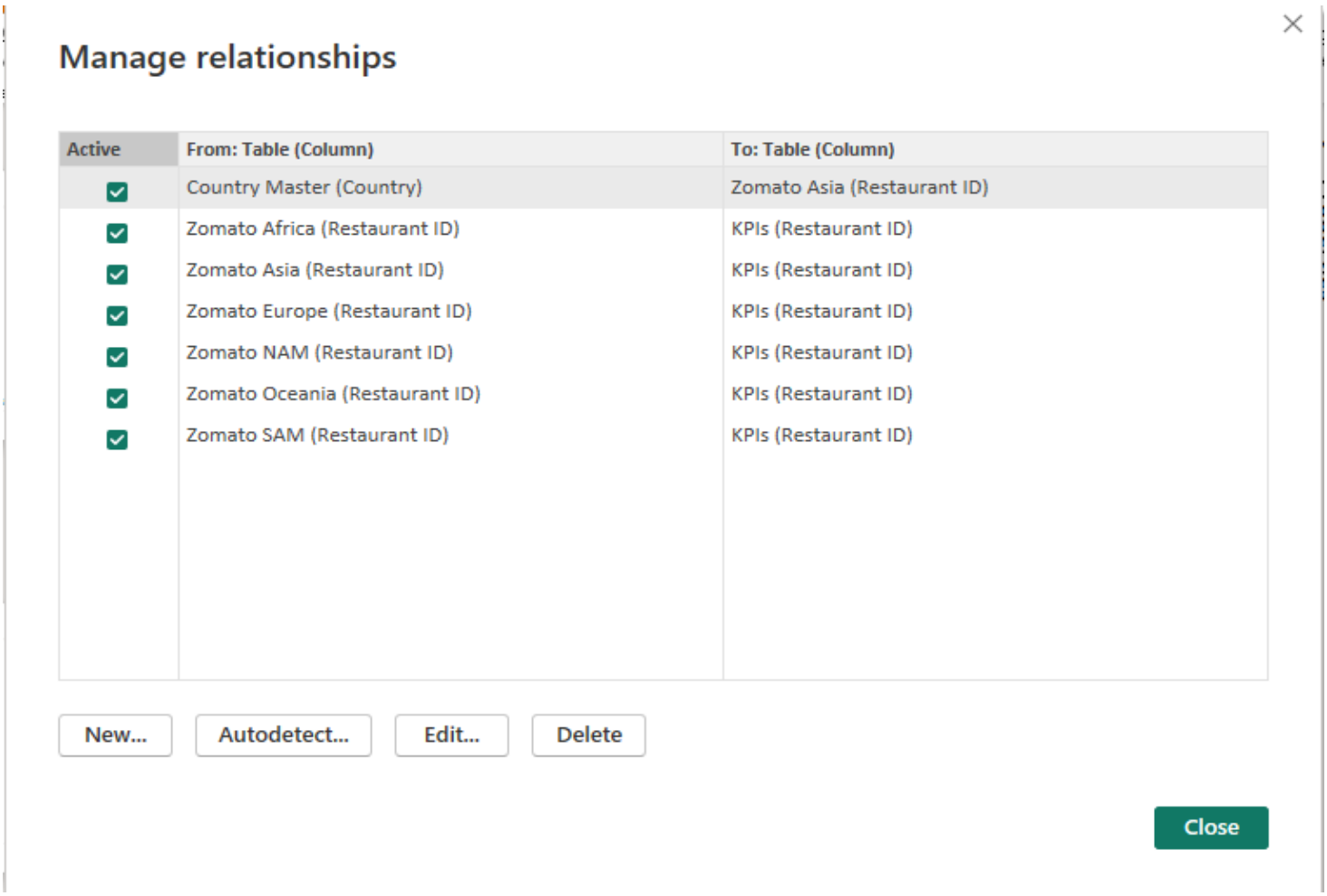
InPowerBI,editingrelationshipsallowsuserstoadjusthowtablesarelinkedtogether,whichis crucial for accurate data analysis. This feature enables usersto establish or modify connections between tables based on common fields,ensuring data integrity and enabling seamless queryingacrossmultipletables.Byeditingrelationships,userscandefinerelationshipsasone- to-one,one-to-many,ormany-to-many,dependingonthenatureofthedata.Thisflexibility empowersuserstorefinetheirdatamodels,resolvedatainconsistencies,andoptimize

performance. Overall, editing relationships in Power BI is a fundamental aspect of datamodeling, enabling users to create robust and efficient data structures that support their analytical need



Condition column

Thisqueryisusedtoconnecttheanothercoloums.usethisquerytosplittheregionfromtheexiting data.then the data visualization is much better. In Power BI,conditions are utilized extensivelytomanipulate,filter,andformatdata.Theseconditionscanbeappliedinvarious aspectsofPowerBIdevelopment,suchasfilteringdatadisplayedinvisuals,creatingcalculated columns based on specificcriteria, applying conditional formatting to visuals, defining measures with dynamiclogic, transforming data in the Power Query Editor, implementing hierarchicalfiltering, and parameterizing queries for interactive filtering. Essentially, conditions inPower BI empower users to tailor their data analysis, visualization, andtransformation processes to suit their specific needs, enabling them to derive valuable insightsandmakeinformeddecisionseffectively.

Country Code	Country
94	Indonesia
94	Indonesia
191	Sri Lanka
214	UAE
94	Indonesia
1	India
30	Brazil
14	Australia
208	Turkey
189	South Africa
1	India
216	United States
215	United Kingdom
94	Indonesia
214	UAE
162	Phillipines
215	United Kingdom
215	United Kingdom
166	Qatar
215	United Kingdom
14	Australia

Inthisdatathenewcolumnaddedtoidentifythecountrywiththehelpofcountrycode.everycontrycodeha veauniquregionsoeasytoaccessthesLicer.

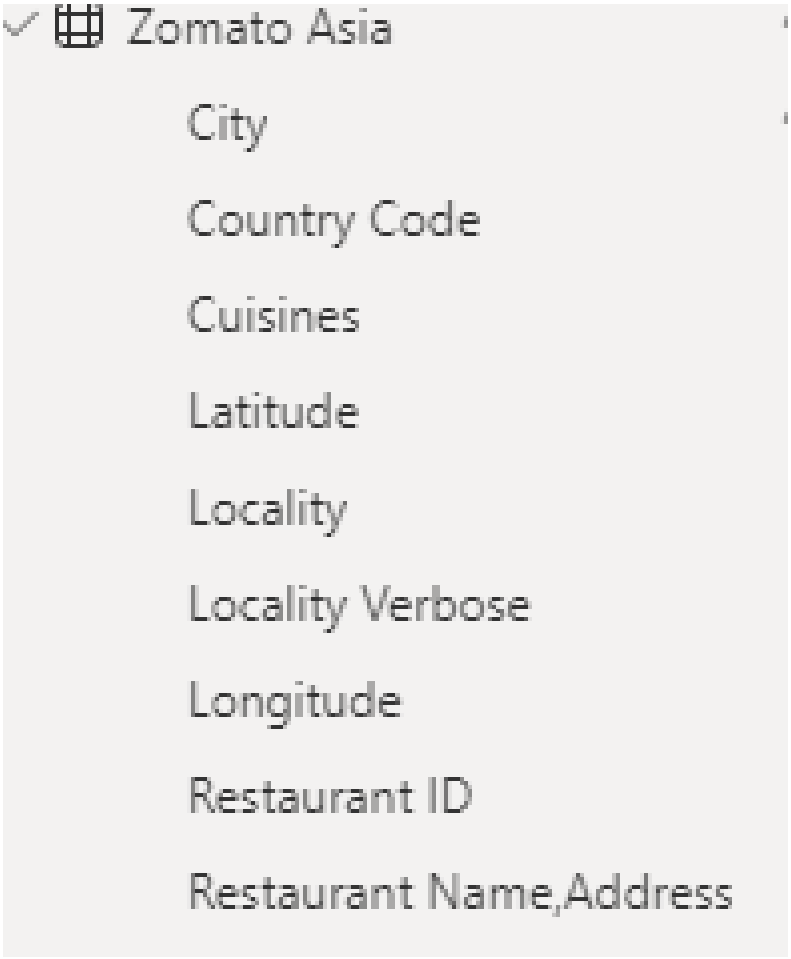
Duplicatethe"district"thensplit

columnusingspaceasdelimiter.Thenmergecolumnbynanddirection.Refertoappliedstepsfordetail

	Country Code	Country
1	94	Indonesia
2	94	Indonesia
3	null	null
4	191	Sri Lanka
5	214	UAE
6	94	Indonesia
7	1	India
8	30	Brazil
9	null	null
10	14	Australia
11	208	Turkey
12	189	South Africa
13	1	India
14	216	United States
15	null	null
16	215	United Kingdom
17	94	Indonesia
18	214	UAE
19	162	Phillipines
20	215	United Kingdom
21	215	United Kingdom
22	166	Qatar
23	215	United Kingdom
24	14	Australia
25	30	Brazil
26	94	Indonesia

Editthecolumns:

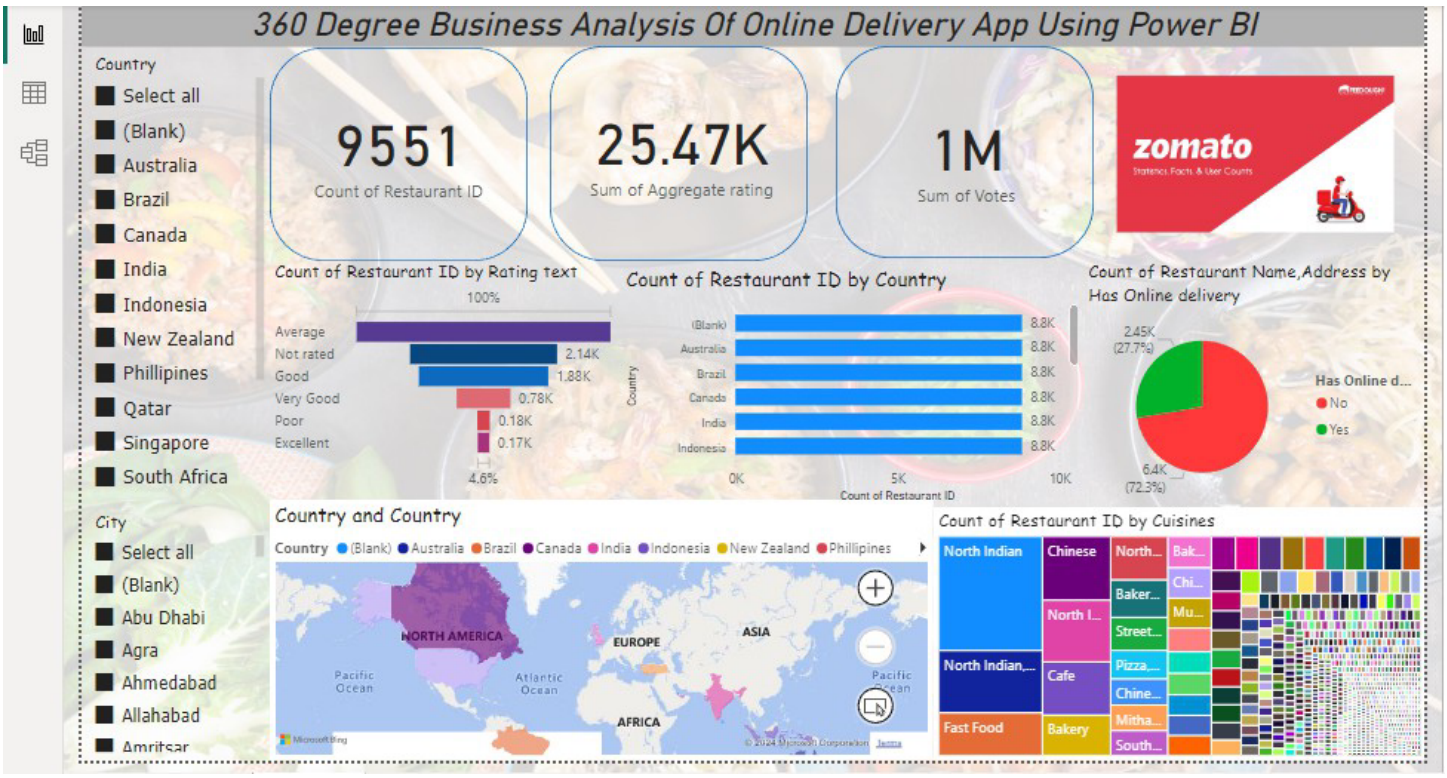
In"countrymaster"dataset therearesomanyduplicatecolumns.Usethecondition columns to remove the duplicate columns and null values



Combinedatasetusingpowerquery:

Createanewdatasetnamed"Wholedata"andcombineallttheexistingdatasetintoOnesingledataset.itisused toaccessthevisualmoreeffectively.Themain datasetNamedasWholedata.itconsist6typeofdatasetnamedas"ZomatoAfrica""' Zomato asia"" Zomato europe" Zomatooceania"" zomato NAM"Zomato sa"

Dashboard



CONCLUSION

The project " Real-Time Analysis of Zomato Customers"using PowerBIhassuccessfullydemonstratedthepotentialofdataanalyticsintheFood sector. Thereal-time analysis of customer data has provided valuable insights into customerbehavior, preferences, and trends, thereby facilitating informed decision-making. Theinteractive dashboards and reportshaveoffered acomprehensiveviewofcustomerdata,enablingthe identificationofpatternsandcorrelations.Thishasnotonlyimprovedthe efficiencyofdataanalysisbutalsoenhanced thezomatoabilitytoprovide personalized services toits customers. Theproject has alsohighlighted the importance of data visualization in making complex data morelunderstandable and accessible. The use of PowerBI has made it possibletopresentdatainavisuallyappealingandeasy-to-understand format,therebyaidinginbetterdecision-making.

FUTURE SCOPE

Inthecomingyears,Zomatoispoisedtoexpanditsscopebeyonditscurrentofferingsdrivenbyacombinationoftechnologicalinnovation,strategic partnerships, and evolving consumer demands. While continuing to strengthen its core food delivery and restaurant discovery services, Zomato islikelytoexplorenewavenuesforgrowth,includingverticalintegration intofoodproductionandsupplychainmanagement.Internationalexpansion remains a significant opportunity, with emerging marketspresenting untappedpotentialforthecompany.Diversificationintoadjacentsectors such as grocery delivery and alcohol delivery, along with a heightened focus on sustainabilityand health-conscious options, could further broaden Zomato'sappeal.Continuedinvestmentintechnology,includingartificial intelligence and machine learning, will enable Zomato to enhance its platform's capabilities and deliver personalized experiences to users. Strategicpartnershipsandcollaborationswithotherindustryplayersmay unlock synergies and create new revenue streams. Additionally,data monetization efforts leveraging Zomato's rich dataset could provide valuable insights to businesses and advertisers. As Zomato navigates these opportunities and challenges, its ability to innovate and adapt will be pivotalinshapingitsfuturetrajectoryinthedynamiclandscapeoffood deliveryandhospitalityservices.

REFERENCES

http://youtu.be/ZgzGqoq3Xuc?si=ClRHlJTMjVwfV3VT

LINK