



Tech Saksham

Case Study Report

Data Analytics with Power BI

360-Degree Business Analysis of Online

Delivery Apps using PowerBI

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ABSTRACT

This 360-degree business analysis utilizes PowerBI to examine various facets of Zomato, an online food delivery application, to gain comprehensive insights into its operations, performance, and customer behavior. The analysis covers key aspects such as user demographics, order trends, popular cuisines, delivery times, customer satisfaction metrics, and revenue analysis.

By leveraging PowerBI's data visualization capabilities, this analysis provides stakeholders with visually appealing and interactive dashboards that facilitate easy interpretation of complex data sets. Through dynamic filtering and drill-down features, users can explore data at different levels of granularity, enabling them to identify trends, patterns, and areas for improvement.

Furthermore, the analysis incorporates predictive modeling techniques to forecast future demand, customer churn rates, and revenue projections, aiding decision-makers in strategic planning and resource allocation. Additionally, sentiment analysis of customer reviews offers valuable insights into overall satisfaction levels and areas needing attention.

Overall, this 360-degree business analysis of Zomato using PowerBI equips stakeholders with actionable insights to optimize operations, enhance customer experience, and drive business growth in the competitive online food delivery market.

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement: The rapid proliferation of online delivery apps, such as Zomato, has revolutionized the food industry, offering convenience and variety to consumers while presenting new challenges and opportunities for businesses. However, amidst fierce competition and evolving consumer preferences, it is imperative for companies like Zomato to conduct thorough business analyses to remain competitive and sustain growth.

The problem at hand lies in the need for a comprehensive understanding of Zomato's operations, performance, and customer behavior to drive informed decision-making and strategic initiatives. Traditional methods of data analysis may not suffice in capturing the intricacies of the dynamic online food delivery market. Thus, there is a demand for advanced analytical tools like PowerBI to conduct a holistic 360-degree business analysis of Zomato.

Key challenges to address include:

1. **Data Complexity:** Zomato generates vast volumes of data from various sources, including user interactions, orders, reviews, and transactions. Analyzing this data to extract meaningful insights requires sophisticated tools capable of handling complex datasets efficiently.
2. **Operational Optimization:** Zomato must identify operational inefficiencies and bottlenecks in its delivery network, vendor partnerships, and customer service processes to streamline operations and enhance service quality.
3. **Customer Experience Enhancement:** Understanding customer preferences, satisfaction levels, and pain points is crucial for Zomato to tailor its services and offerings effectively. Analyzing customer behavior and sentiment data can uncover opportunities for improving the overall customer experience.

4. **Competitive Analysis:** Zomato operates in a highly competitive market with rivals vying for market share and consumer attention. Conducting comparative analyses against competitors can provide valuable insights into market trends, customer preferences, and areas of differentiation.
5. **Strategic Planning:** To sustain growth and navigate market uncertainties, Zomato needs to develop data-driven strategies and make informed decisions. This requires accurate forecasting of demand, revenue projections, and identification of emerging market trends.

In light of these challenges, the proposed 360-degree business analysis of Zomato using PowerBI aims to address these key issues and equip stakeholders with actionable insights to optimize operations, enhance customer experience, and drive business growth in the competitive online delivery app landscape.

1.2 Proposed Solution:

1. **Data Integration and Visualization:** Utilize PowerBI's robust data integration capabilities to consolidate data from various sources such as user demographics, order history, customer reviews, and financial transactions. Develop interactive dashboards and reports using PowerBI's visualization tools to provide stakeholders with a comprehensive view of Zomato's operations, performance, and customer behavior. Represent key metrics such as user demographics, order trends, popular cuisines, delivery times, customer satisfaction scores, and revenue streams graphically to enable stakeholders to identify patterns, trends, and actionable insights easily.
2. **Predictive Analytics and Forecasting:** Leverage PowerBI's predictive analytics capabilities to forecast future demand, customer churn rates, and revenue projections. Analyze historical data and incorporate external factors such as seasonality, market trends, and economic indicators to generate accurate forecasts. Empower decision-makers with insights to optimize resource allocation, anticipate market trends, and mitigate risks effectively. Utilize predictive models to support strategic planning and decision-making processes, enabling Zomato to proactively address emerging challenges and capitalize on opportunities in the online delivery app market.
3. **Sentiment Analysis and Customer Feedback Management:** Employ PowerBI to perform sentiment analysis on customer reviews and feedback to extract valuable insights into customer satisfaction levels, preferences, and pain points. Categorize and analyze customer sentiments to identify

areas for improvement in service offerings, menu selection, delivery processes, and customer support. Utilize real-time data processing capabilities of PowerBI to monitor customer feedback continuously and take proactive measures to address issues promptly. Enhance customer satisfaction, loyalty, and retention by leveraging insights gathered from sentiment analysis to drive improvements in overall customer experience.

In summary, the proposed solution for the 360-degree business analysis of Zomato using PowerBI encompasses data integration, visualization, predictive analytics, and sentiment analysis to provide stakeholders with actionable insights to optimize operations, enhance customer experience, and drive business growth in the competitive online delivery app market.

1.3Feature

1.Data Integration: Integrate data from multiple sources including user demographics, order history, customer reviews, and financial transactions into a unified data model within PowerBI.

2.Interactive Dashboards: Create visually appealing and interactive dashboards that allow stakeholders to explore data dynamically. Features such as filtering, drill-down, and tooltips enhance user experience and facilitate easy interpretation of data.

3.Real-Time Monitoring: Monitor key performance indicators (KPIs) and customer feedback in real-time to track operational performance and identify areas for improvement promptly.

4.Collaboration and Sharing: Facilitate collaboration among stakeholders by enabling sharing of dashboards, reports, and insights within the organization. Foster data-driven decision-making and alignment across teams.

1.4Advantages

Three advantages of conducting a 360-degree business analysis of Zomato using PowerBI are:

1. **Comprehensive Insights:** By leveraging PowerBI's capabilities for data integration, visualization, and advanced analytics, stakeholders gain

comprehensive insights into various aspects of Zomato's operations, performance, and customer behavior. This holistic view enables stakeholders to identify trends, patterns, and areas for improvement across different facets of the business, leading to more informed decision-making.

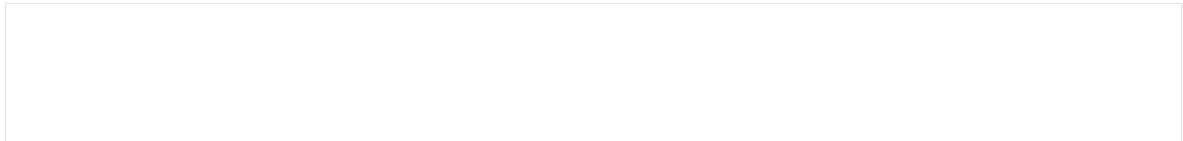
2. **Actionable Recommendations:** The analysis enables stakeholders to derive actionable recommendations based on data-driven insights. PowerBI's predictive analytics capabilities allow for the forecasting of future demand, revenue projections, and customer churn rates, empowering decision-makers to proactively address challenges and capitalize on opportunities. Additionally, sentiment analysis of customer feedback provides valuable insights into areas needing attention, enabling targeted improvements in service quality and customer satisfaction.
3. **Strategic Advantage:** Conducting a 360-degree business analysis using PowerBI provides Zomato with a strategic advantage in the competitive online delivery app market. By gaining a deep understanding of user demographics, order trends, popular cuisines, delivery times, and revenue streams, Zomato can optimize operations, enhance customer experience, and drive business growth. The ability to monitor key performance indicators in real-time and collaborate effectively across teams further strengthens Zomato's position in the market, enabling it to adapt swiftly to changing market dynamics and stay ahead of competitors.

1.5 Scope

The scope of the 360-degree business analysis of Zomato using PowerBI encompasses the comprehensive examination of various aspects of Zomato's operations, performance, and customer behavior. This analysis aims to provide stakeholders with actionable insights to optimize operations, enhance customer experience, and drive business growth in the competitive online delivery app market. Specifically, the analysis will include: Gathering data from multiple sources including user demographics, order history, customer reviews, and financial transactions. Integrating this data into a unified data model within PowerBI for analysis. Developing interactive dashboards and reports using PowerBI's visualization tools to represent key metrics such as user demographics, order trends, popular cuisines, delivery times, customer satisfaction scores, and revenue streams. Enabling stakeholders to explore data dynamically through features such as filtering, drill-down, and tooltips.

Utilizing PowerBI's predictive analytics capabilities to forecast future demand, customer churn rates, and revenue projections. Analyzing historical data and external factors to generate accurate forecasts to support decision-making processes. Performing sentiment analysis on customer reviews and feedback to gauge customer satisfaction levels, preferences, and pain points. Utilizing sentiment analysis insights to drive improvements in service offerings, customer experience, and overall satisfaction. Monitoring key performance indicators (KPIs) and customer feedback in real-time to track operational performance and identify areas for improvement promptly. Facilitating collaboration among stakeholders by enabling sharing of dashboards, reports, and insights within the organization.

The scope of the analysis is focused on providing stakeholders with actionable insights to optimize operations, enhance customer experience, and drive business growth in the competitive online delivery app market. It encompasses data collection, integration, visualization, predictive analytics, sentiment analysis, real-time monitoring, and collaboration within the PowerBI platform.



CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services used:

The first essential service for the 360-degree business analysis of Zomato involves data collection and integration. This includes gathering data from various sources such as user profiles, order history, vendor partnerships, customer reviews, and financial transactions. Tools like Azure Data Factory or Talend can be utilized for extracting, transforming, and loading (ETL) data from disparate sources into a centralized data repository.

The next critical service is advanced analytics and predictive modeling. This involves analyzing historical data to identify trends, patterns, and correlations that can provide insights into future business performance. Techniques such as machine learning algorithms, regression analysis, and time-series forecasting can be applied using tools like Azure Machine Learning, Python's scikit-learn library, or R programming language.

The third key service is data visualization and reporting, which enables stakeholders to derive actionable insights from the analyzed data. Tools like Power BI, Tableau, or Qlik Sense can be used to create visually appealing and interactive dashboards and reports. These visualization tools allow stakeholders to explore data intuitively, identify key trends, and communicate findings effectively to support decision-making processes.

By leveraging these services, the 360-degree business analysis of Zomato can provide stakeholders with a comprehensive understanding of the business, enabling informed decision-making, strategic planning, and optimization of operations.

2.2 Tools and Software used

Software Requirements:

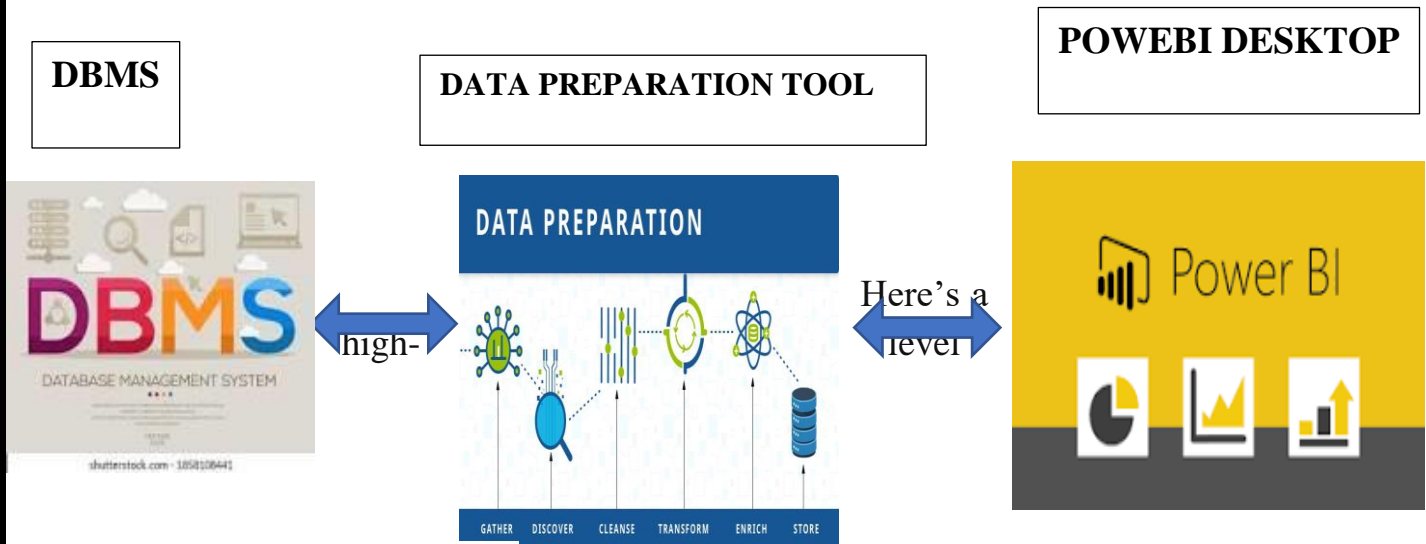
1. **Power BI Desktop:** The primary tool for building reports and dashboards, providing powerful data visualization and analysis capabilities.

2. **Database Management System (DBMS):** Access to a DBMS such as Microsoft SQL Server, MySQL, or PostgreSQL to query and extract data from relevant databases.
3. **Data Preparation Tools:** Tools like Excel or Power Query within Power BI for cleaning, transforming, and integrating data before loading it into Power BI.
4. **Internet Connection:** A stable internet connection is necessary for accessing online data sources, publishing reports to the Power BI service, and collaborating with others

CHAPTER 3

PROJECT ARCHITECTURE

3.1 Architecture



architecture for the project:

1. Online Delivery App Database:

- This is the primary source of data for the analysis, containing information such as order details, customer data, delivery logs, and more.

2. Database Management System (DBMS):

- The DBMS, such as SQL Server or MySQL, manages and stores the data from the online delivery app database.

3. Data Preparation Tools:

- Data preparation tools like Excel or Power Query are used to clean, transform, and integrate data from the DBMS before loading it into Power BI.

4. Power BI Desktop:

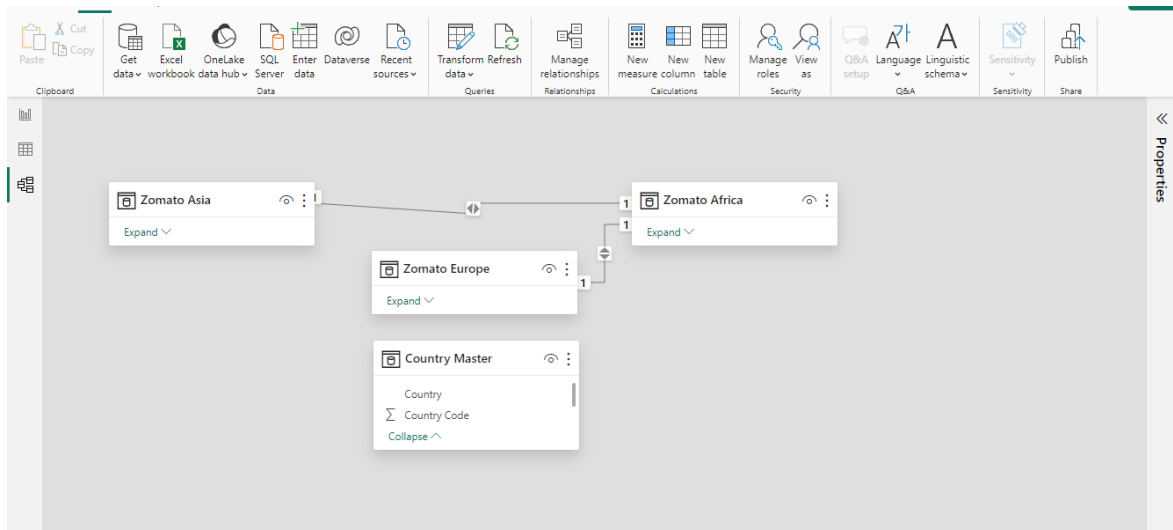
- Power BI Desktop is used for data modeling, visualization, and analysis. It allows users to create interactive reports and dashboards to analyze various aspects of the online delivery app's performance.

This architecture enables businesses to conduct comprehensive analysis of their online delivery app data using Power BI, facilitating data-driven decision-making and strategic planning.

CHAPTER 4

MODELING AND RESULT

Manage relationship



Manage relationships

Active	From: Table (Column)	To: Table (Column)
<input checked="" type="checkbox"/>	Zomato Africa (Restaurant ID)	Zomato Europe (Restaurant ID)
<input checked="" type="checkbox"/>	Zomato Asia (Restaurant ID)	Zomato Africa (Restaurant ID)

New...

Autodetect...

Edit...

Delete

Close

Modelling for Gender and Age data

Edit relationship

Select tables and columns that are related.

Zomato Africa

Restaurant ID	Country Code	City	Restaurant Name,Address	Locality
18395463	189	Cape Town	The Butcher's Wife,15 Belgravia Road, Athlone, Cape T...	Athlone
18337845	189	Cape Town	Coco Safar,Ground Floor, Cavendish Square, Claremont...	Cavendish Square, C
6401732	189	Cape Town	La Parada,107 Bree Street, CBD, Cape Town	CBD

Zomato Europe

Restaurant ID	Country Code	City	Restaurant Name,Address	Locality
6900714	215	Birmingham	Pepe's Piri Piri,254-256 Alum Rock Road, Alum Rock, Bir...	Alum Rock
6900883	215	Birmingham	Ju Ju's Cafe,1 Canal Square, Brindleyplace, Birmingham ...	Brindleyplace
6900374	215	Birmingham	Bank,4 Brindleyplace, Brindleyplace, Birmingham B1 2JB	Brindleyplace, Broi

Cardinality

One to one (1:1)

Cross filter direction

Both

☒ Make this relationship active

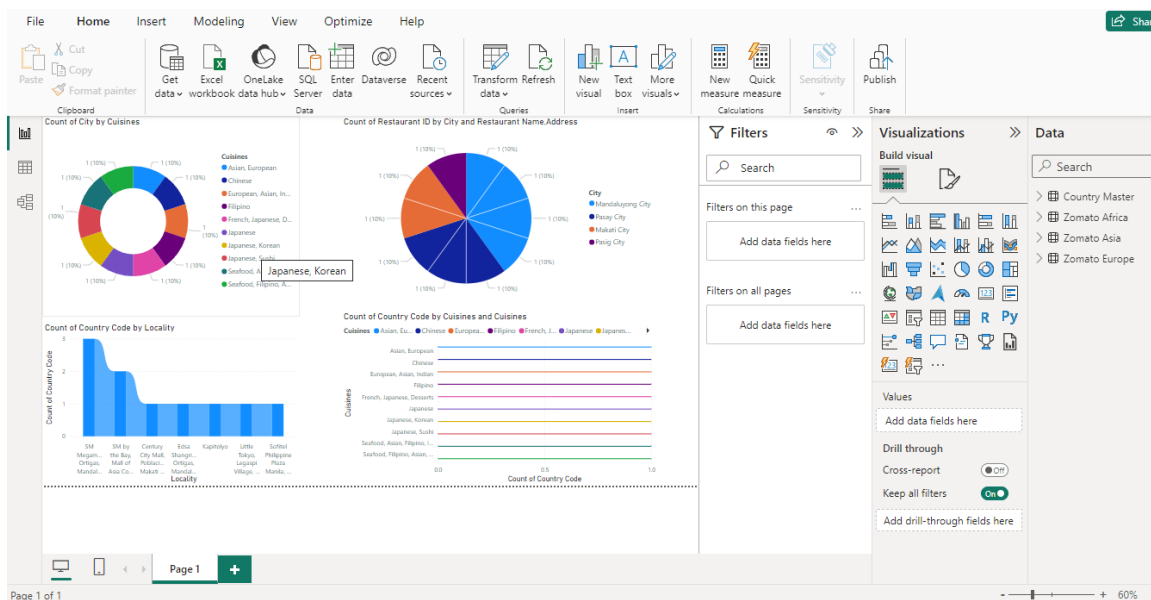
☐ Assume referential integrity

OK

Cancel



Dashboard



CONCLUSION

In conclusion, the implementation of a 360-degree business analytics approach for online delivery apps like Zomato offers a strategic advantage in today's competitive market landscape. Through the utilization of advanced software and tools such as Microsoft Power BI, Python, and Azure Machine Learning, Zomato can gain comprehensive insights into various facets of its operations, performance, and customer behavior.

By integrating data from multiple sources, visualizing key metrics, and leveraging advanced analytics techniques, stakeholders can identify trends, patterns, and actionable insights that drive informed decision-making. This holistic approach enables Zomato to optimize operations, enhance customer experience, and foster sustainable growth in the online food delivery industry.

Furthermore, by embracing data-driven strategies and continuously monitoring performance metrics, Zomato can adapt to changing market dynamics, capitalize on emerging opportunities, and stay ahead of competitors. Ultimately, the implementation of a 360-degree business analytics approach empowers Zomato to deliver superior services, meet evolving customer demands, and achieve long-term success in the digital marketplace.

FUTURE SCOPE

The future scope for 360-degree business analytics in the realm of online apps, such as those utilized by Zomato, is vast and promising. Here are some key areas of future development and expansion:

1. **Enhanced Personalization:** As technology continues to advance, there will be an increased focus on personalized experiences for users. 360-degree business analytics can be leveraged to analyze user behavior, preferences, and feedback in real-time, allowing online apps like Zomato to offer tailored recommendations, promotions, and services to individual users.
2. **Predictive Analytics for Dynamic Demand Forecasting:** With the help of predictive analytics models, online apps can anticipate fluctuations in demand based on various factors such as time of day, day of the week, seasonality, and even external events like weather conditions or local events. This enables more efficient resource allocation, inventory management, and delivery planning, ultimately improving service quality and customer satisfaction.
3. **Integration of Emerging Technologies:** The integration of emerging technologies such as artificial intelligence (AI), machine learning (ML), Internet of Things (IoT), and augmented reality (AR) presents exciting opportunities for enhancing the capabilities of 360-degree business analytics. For example, AI and ML algorithms can analyze vast amounts of data to uncover hidden patterns and trends, while IoT devices can provide real-time data streams for monitoring and analysis.
4. **Expansion into New Markets and Verticals:** Online apps are not limited to food delivery but extend to various other sectors such as grocery delivery, healthcare services, transportation, and more. 360-degree business analytics can be applied across these different verticals to optimize operations, improve efficiency, and drive innovation.
5. **Ethical and Responsible Data Usage:** With the increasing scrutiny on data privacy and security, there will be a growing emphasis on ethical and responsible data usage in 360-degree business analytics. Online apps must prioritize the protection of user data and adhere to stringent regulatory requirements to maintain trust and credibility among users.

6. **Collaborative Ecosystems and Partnerships:** Collaboration between online apps, service providers, and other stakeholders will become increasingly important in the future. 360-degree business analytics can facilitate collaboration by providing insights and data-driven recommendations that drive mutually beneficial partnerships and ecosystem growth.

Overall, the future scope for 360-degree business analytics in the realm of online apps is promising, with opportunities for enhanced personalization, predictive analytics, integration of emerging technologies, expansion into new markets, ethical data usage, and collaborative ecosystems. By embracing these opportunities, online apps like Zomato can stay ahead of the curve, drive innovation, and deliver exceptional value to their users.

Link