

Tech Saksham

Case Study Report

Data Analytics with Power BI

“360-Degree Business Analysis Of Online Delivery Apps Using Power BI”

“A.P.C. Mahalaxmi College For Women”

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ABSTRACT

This study employs Power BI to conduct a thorough 360-degree analysis of online delivery apps, encompassing customer behavior, operational efficiency, financial performance and strategic insights. Through data integration, transformation and modeling, key performance indicators (KPIs) are derived, interactive dashboards are designed and customer segmentation analysis is performed. Operational metrics, financial analysis, real-time monitoring and sentiment analysis of customer feedback contribute to actionable insights and recommendations for optimizing business performance and enhancing customer satisfaction in the online delivery sector.

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement

The problem statement for the 360-degree business analysis of online delivery apps using Power BI revolves around the need to enhance operational efficiency, improve customer satisfaction and drive strategic decision-making in the highly competitive online delivery market. With increasing customer expectations, fluctuating demand patterns and operational challenges, businesses require a robust analytical framework powered by tools like Power BI to analyze diverse datasets, derive actionable insights and implement data-driven strategies for sustainable growth and competitiveness in the online delivery industry.

1.2 Proposed Solution

The solution to the challenges faced by online delivery apps lies in the implementation of Power BI for a comprehensive 360-degree business analysis. By harnessing Power BI's data integration, cleansing and visualization capabilities, businesses can gain deep insights into customer behavior, operational efficiency and financial performance. This approach enables the identification of key trends, optimization opportunities and strategic decisions aimed at improving service quality, reducing costs and enhancing customer satisfaction. Leveraging Power BI for data-driven decision-making empowers online delivery apps to stay competitive, agile and responsive to evolving market dynamics, ultimately driving sustainable growth and success in the industry.

1.3 Feature

- **User-Friendly Interface:** Intuitive and easy-to-use app interface for seamless navigation and ordering.
- **Order Tracking:** Real-time tracking of orders from placement to delivery, enhancing transparency and customer satisfaction.
- **Multiple Payment Options:** Support for various payment methods like credit/debit cards, digital wallets and cash on delivery.
- **Customizable Menus:** Ability to customize menus, add special instructions and choose delivery preferences.

1.4 Advantages

- **Convenience:** Easy ordering from anywhere, anytime, saving time and effort.
- **Variety:** Access to diverse restaurants and products, catering to different tastes and preferences.
- **Transparency:** Real-time order tracking and updates for a trustworthy and seamless delivery experience.

1.5 Scope

The scope of online delivery apps is vast and multifaceted, encompassing various essential components to ensure seamless operations and customer satisfaction. This includes efficient order management systems, user-friendly interfaces for easy navigation and ordering, integration with payment gateways and tracking systems for real-time updates and robust customer support mechanisms. Additionally, data analytics plays a crucial role in understanding customer preferences, optimizing delivery routes and improving overall service quality. Ensuring regulatory compliance, managing vendor relationships and continuously upgrading technology to meet evolving market demands are also vital aspects within the scope of online delivery apps.

CHAPTER 2

SERVICES AND TOOLS REQUIRED

2.1 Services Used

- **Cloud Computing Services:** Leveraging cloud platforms like Amazon Web Services (AWS), Microsoft Azure or Google Cloud Platform for scalable and reliable infrastructure.
- **Payment Gateways:** Integrating with payment gateways such as PayPal, Stripe or Square for secure and efficient online transactions.
- **Location-Based Services:** Utilizing GPS technology for accurate location tracking, delivery routing and estimation of delivery times.

2.2 Tools and Software used

Tools:

- **Power BI:** The main tool for this project is Power BI, 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:

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

- **Power BI Service:** This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.
- **Power BI 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 Storage:** Utilize Power BI's data integration capabilities to collect data from various sources such as user orders, delivery times, customer feedback and payment transactions. Store the collected data in a suitable data storage solution such as a cloud-based data warehouse (E.g., Azure SQL Data Warehouse, Amazon Redshift) or a relational database (E.g., MySQL, PostgreSQL)

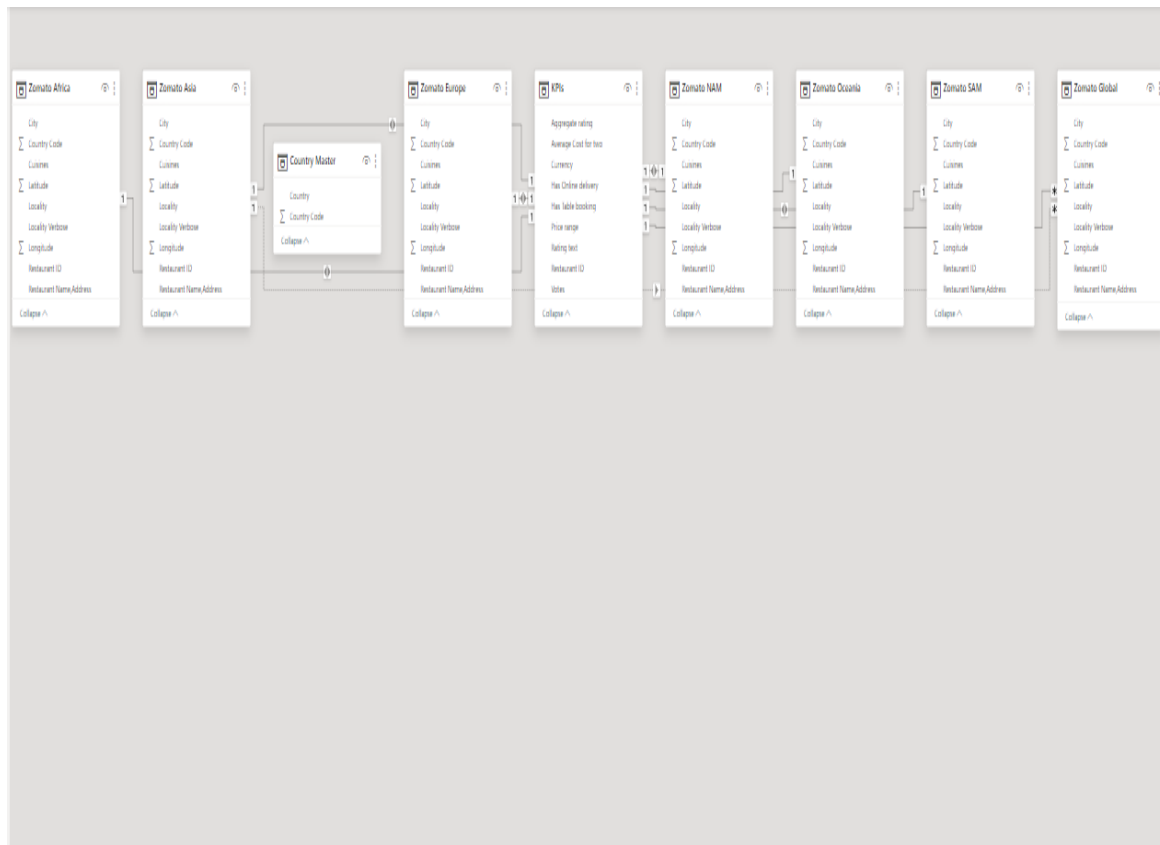
2. **Data Modeling and Transformation:** Use Power BI Desktop to perform data modeling and transformation tasks. Create relationships between different data tables, define calculated columns and apply data cleansing and formatting as needed.
3. **Dashboard Creation:** Develop interactive dashboards and reports using Power BI Desktop. Include visuals such as charts, graphs, maps and KPI indicators to showcase key metrics related to order volumes, delivery performance, customer feedback and financial data.
4. **Real-time Monitoring:** Utilize Power BI's real-time streaming capabilities to monitor and visualize data updates in real time. Implement alerts and notifications based on predefined thresholds or anomalies using Power BI Service.
5. **Integration with Backend Systems:** Integrate Power BI reports and dashboards with the backend systems using Power BI Embedded or Power BI API.
6. **Data Analysis and Insights:** Leverage Power BI's advanced analytics features to perform in-depth data analysis, trend analysis and predictive modeling.
7. **Security and Compliance:** Ensure data security and compliance with regulatory requirements (E.g., GDPR, PCI DSS) by implementing role-based access control (RBAC), data encryption and audit logging in Power BI.

By integrating Power BI into the project architecture, you can empower decision-makers and stakeholders with data-driven insights, improve operational efficiency and enhance the overall user experience of the online delivery app.

CHAPTER 4

MODELING AND RESULT

Manage relationship





Manage relationships

Active	From: Table (Column)	To: Table (Column)
<input checked="" type="checkbox"/>	Zomato Africa (Restaurant ID)	KPIs (Restaurant ID)
<input checked="" type="checkbox"/>	Zomato Asia (Restaurant ID)	KPIs (Restaurant ID)
<input checked="" type="checkbox"/>	Zomato Europe (Restaurant ID)	KPIs (Restaurant ID)
<input checked="" type="checkbox"/>	Zomato Global (Restaurant ID)	KPIs (Restaurant ID)
<input type="checkbox"/>	Zomato Global (Restaurant Name,Address)	Zomato Asia (Restaurant Name,Address)
<input checked="" type="checkbox"/>	Zomato NAM (Restaurant ID)	KPIs (Restaurant ID)
<input checked="" type="checkbox"/>	Zomato Oceania (Restaurant ID)	KPIs (Restaurant ID)
<input checked="" type="checkbox"/>	Zomato SAM (Restaurant ID)	KPIs (Restaurant ID)

New...

Autodetect...

Edit...

Delete

Close



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

KPIs

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

Cross filter direction

One to one (1:1)

Both

☒ Make this relationship active

☐ Assume referential integrity

OK

Cancel

Dashboard

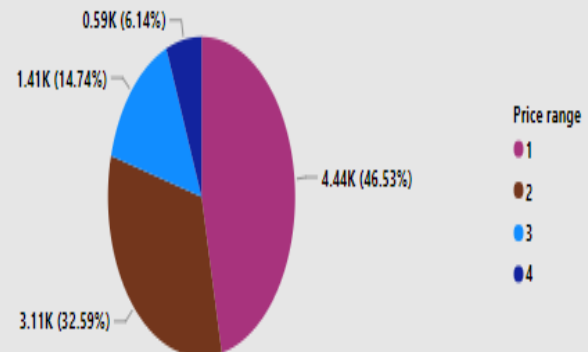


360-DEGREE BUSINESS ANALYSIS OF ONLINE DELIVERY APPS USING POWER BI

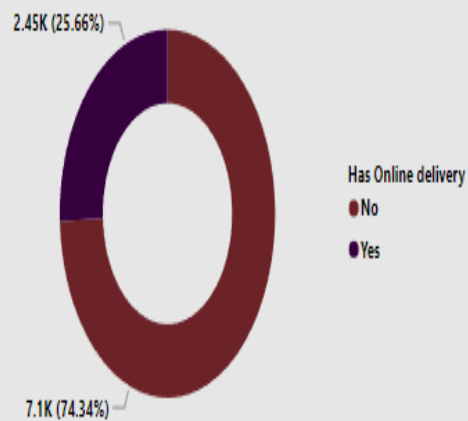
9551

Count of Restaurant ID

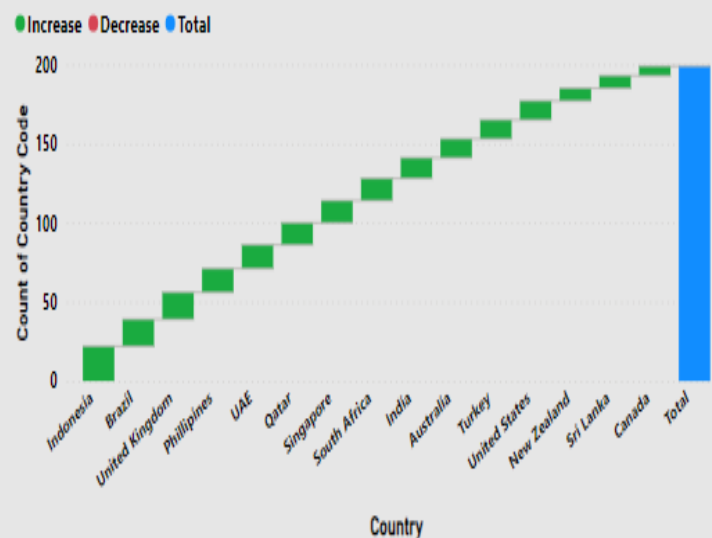
Count of Votes by Price range

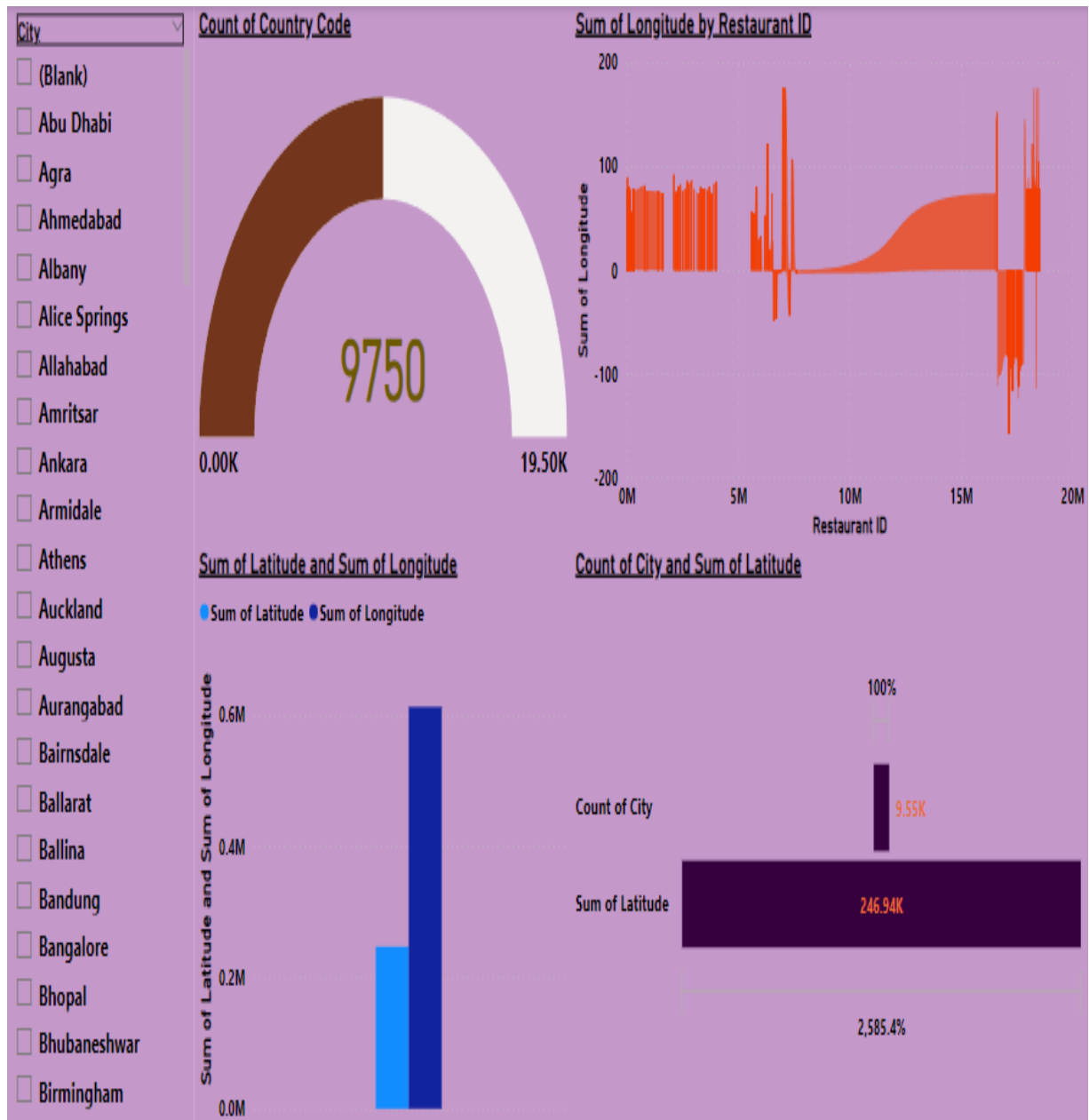


Count of Price range by Has Online delivery

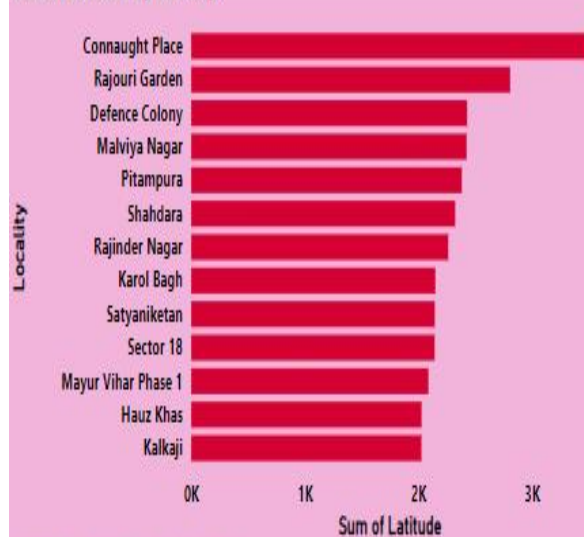


Count of Country Code by Country

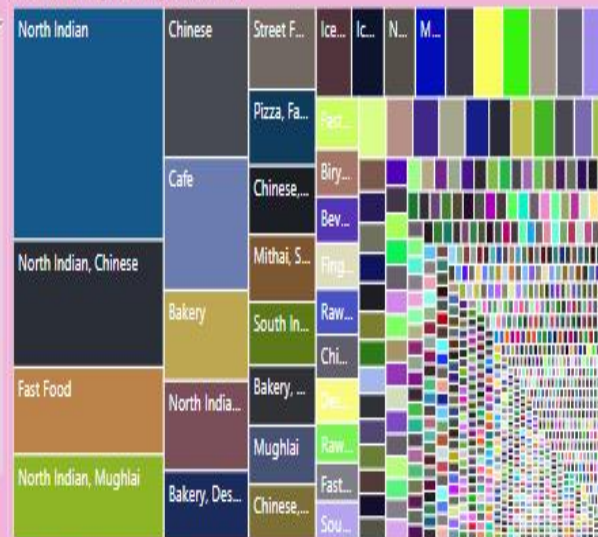




Sum of Latitude by Locality



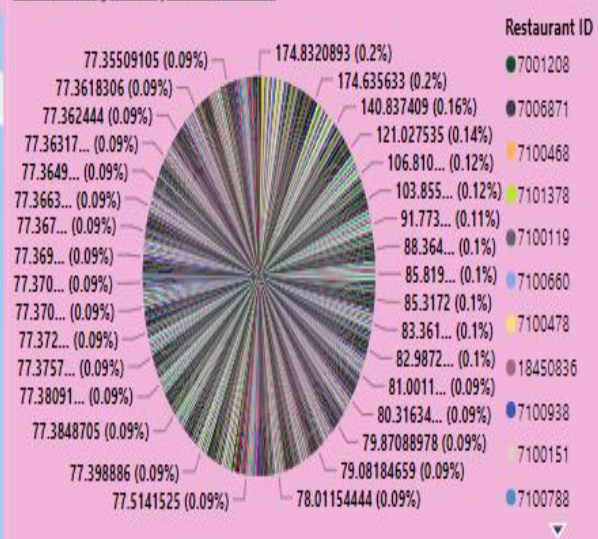
Sum of Longitude by Cuisines



Count of Country Code by City



Sum of Longitude by Restaurant ID



CONCLUSION

The project “360-degree Business Analysis of Online Delivery Apps Using Power BI” has integrating Power BI into the architecture of an online delivery app provides a powerful platform for data analysis, visualization and decision-making. By leveraging Power BI’s capabilities, businesses can streamline data collection, derive actionable insights and enhance operational efficiency, customer satisfaction and financial performance.

The combination of Power BI’s data integration, transformation, modeling, visualization and real-time monitoring features enables businesses to gain a comprehensive understanding of their operations, customer behavior and market trends. This empowers decision-makers with the tools and insights needed to optimize processes, improve service quality and drive strategic initiatives for long-term success in the competitive landscape of online delivery apps.

Overall, Power BI serves as a valuable asset in the digital transformation journey of online delivery businesses, enabling them to harness the full potential of their data stay ahead in a rapidly evolving market environment.

FUTURE SCOPE

The future scope of integrating Power BI into online delivery apps is promising and dynamic. It involves leveraging advanced analytics, predictive modeling and emerging technologies to drive innovation and enhance business outcomes. Power BI's potential advancements include incorporating predictive analytics for demand forecasting, optimizing delivery routes using IoT data, automating decision-making with machine learning and providing immersive AR-enabled dashboards for data visualization. Additionally, integrating NLP capabilities and blockchain technology can further enhance data accessibility, security and transparency. With continued enhancements in mobile experiences, cross-platform integration and user-centric features, Power BI will play a pivotal role in empowering businesses to make informed decisions, improve operational efficiency and deliver exceptional customer experiences in the evolving landscape of online delivery services.

REFERENCES

<https://medium.com/@ranganathan223/zomato-bangalore-restaurant-analysis-using-power-bi-397fce15f030>

